The Bristol Medico-Chirurgical Journal.

"Scire est nescire, nisi id me
Scire alius sciret."

JUNE, 1902.

EDWARD LONG FOX, M.D. (Oxon.), F.R.C.P.

ALTHOUGH the death of Dr. Edward Long Fox has not come to us as a surprise, it is none the less a source of keen regret that his very protracted illness should have terminated fatally on Friday, March 28th, 1902. It was a matter of general knowledge that his health had been failing for many months, and his medical friends knew that he had been struggling against gout and glycosuria for many years. When, therefore, it was understood that he was prostrated with neuritis it was from the first feared that his life's work was ended. Such has been the case, and we have now to review that life's work, and gathering what instruction we can from his precept and example "go and do likewise."

He was the eldest son of the late Dr. Francis Ker Fox, of Brislington House. He was born in 1832. After a year or two with a private tutor at Brislington, Edward was sent with his brother Francis to the Bath Grammar School in 1844, where they were both under the discipline of a very rough, unfeeling,

and very severe master, who was much dreaded and hated by the boys. Both were sent to Shrewsbury School in 1845, and here they were under the care of the Rev. Benjamin Kennedy, D.D., who was then Head-master. Edward remained there until 1850, and took an active share in all the games of the school and was coxswain of the school eight-oar boat on the river Severn. In 1850 he went to Balliol College, Oxford, of which Dr. Jenkins was then Master, and here he came under the influence of the late Dr. Benjamin Jowett, who was his tutor and who afterwards became Master of Balliol. Here, too, he became pupil and friend of the late well-known Regius Professor, Sir Henry Acland, with whom in later years he was associated as Examiner in Medicine to the University. After obtaining a First Class in the Natural Science Tripos in 1853 he commenced his medical studies in Edinburgh; but he did not remain there long, for he was soon transferred to London, and in 1854 was studying at St. George's Hospital, where he acted as clinical clerk to Dr. Bence Jones. He also attended at the Great Ormond Street Hospital, working especially under Dr. Charles West, and the Brompton Hospital for Consumption, where the late Sir Andrew Clark was one of his most intimate companions. He took the degree of M.B. in 1857, and of M.D. in 1861. Shortly after graduation he was appointed Physician to the Bristol Royal Infirmary, and here many generations of students from 1857 to 1877 will well remember how faithfully all his duties were performed. The name of Fox has been associated with the history of the Infirmary since the year 1786, when his grandfather, Edward Long Fox, held office as Physician for thirty years, and his uncle, Dr. Henry Hawes Fox, was one of the Physicians from 1816 onwards to 1829.

An old pupil writes of him at this time as follows:—

"I have a most pleasing recollection of the day on which I formed one of the small group now living who accompanied him in his first round through the wards of the Bristol Royal Infirmary, and can well recall the favourable impression which he made on us all on that memorable occasion. How tenderly he examined all his poor patients. We were all greatly struck with his humble and characteristic remarks to us on that his

first visit. Turning to us, he said: 'I wish to say that as I have only just passed out of the student stage myself, I shall feel greatly pleased should any of you notice anything overlooked in my walk and practice here that might be of importance in the treatment of cases, if you would kindly remind me of the fact; for by such means we shall be serving the patients as well as helping one another.' Such a remark took us all by surprise, and from that day to this the impression of the kind of man he was never left our memories or our hearts."

An old colleague and friend of forty years in a neighbouring city writes as follows:—

"I sought his assistance now and then about difficult cases. His logical alertness made me feel sometimes as if he were too quick in his work: his mental operations were so rapid that I could not always follow them. But his professional judgment was sure and almost unerring. That he was an optimist in prognosis may have been a 'swing' from the pessimist bias of John Addington Symonds.

"After all, character is the great thing. You may be indeed proud of Edward Long Fox as a fellow-citizen: his example and influence were always 'on the better side'; he was magnificently generous, and his hospitality was a proverb everywhere. As a Churchman he was loyal and true. Taking him altogether, he ought to be a precious memory to the inhabitants of Bristol."

The following reminiscences from the pen of one of his old pupils and clinical clerks (Dr. Lionel A. Weatherly) cannot fail to be of interest:—

"When in 1868 I was apprenticed to my father I well recollect Dr. E. L. Fox coming down to meet him in consultation. His anticipated arrival filled me with a certain amount of awe; but within a few moments of his entering the house his kindly interest in me and his encouraging words made me feel that I had found a real friend. When in 1869 my father decided to enter me under Dr. E. Long Fox at the Bristol Royal Infirmary I was indeed delighted, and never have I regretted my good fortune in having been clinical clerk to such a sympathetic and ever-observant physician. Those student

days will long be remembered, and those happy strawberry parties which he gave and the kindly word of welcome he had for us all. Truly he was the student's good friend, and many are the kind actions known only to himself and to those who in their trouble sought his ever-wise advice.

"My first years of practice were materially lightened and helped forward by Dr. Fox, and I always felt when he left Portishead after having seen a case with me that he had in some way given my position another lift by his kindly expressions of approval to my patient's friends. He always seemed desirous of rather impressing the relations with the good I was doing than with the benefit that might accrue from his consultation.

"Since those days we have often met, and the same kindly voice has always called a greeting. Latterly we have been associated in many questions concerning the work of the three counties' branch of the National Association for the Prevention of Consumption, and the interest he from the first took in this movement has indeed been of great help, and has undoubtedly influenced general interest with its objects.

"A kinder, truer friend never lived, and the sorrow felt at his death is indeed deep and real by all who had the privilege of knowing him and his good work."

He lectured on medicine and pathological anatomy at the Bristol Medical School, in conjunction with Dr. Samuel Martin, from 1869 to 1874.

In 1870 he was elected a Fellow of the Royal College of Physicians of London, and in 1882 he delivered the Bradshaw Lecture.

At the foundation of the Clifton College in 1862 Dr. Fox was appointed to the office of Physician to the College, where at his suggestion Mr. Augustin Prichard was associated with him as his surgical colleague. He continued in this office up to the time of his resignation in 1882. He was much loved and valued by everyone connected with the school, where his kindness to the masters, more especially the younger ones, his unceasing attention to any case of severe illness arising amongst the boys, his prompt and unerring decisions, his constant

presence at any function in the College, and his frequent attendance at the College Chapel, caused him to be one of the best known and respected of the College staff, amongst whom he has left so many loving friends.

When in the early sixties an epidemic of typhus fever broke out in one of the overcrowded and poorer districts of Bristol, Dr. Fox in conjunction with others established a temporary hospital for these cases, and did most excellent work in personally supervising the removal and after-care of many of the patients; for in those days systematic removal of the patients from their homes was a somewhat new departure, and many of them refused to go unless Dr. Fox went himself to persuade them.

He was a member of the Royal Medical and Chirurgical and Neurological Societies, and a Past-President of our own Bristol Medico-Chirurgical Society and of the Bath and Bristol Branch of the British Medical Association. When the Association met in Bristol in 1894 Dr. Fox was elected President, and much of the success of that meeting was due to his genial presence and popularity. His Presidential Address on "The Medical Man and the State," and his further address as President of the National Temperance League, attracted much attention at the time. His persistent advocacy of abstinence and his almost life-long practise of it enabled him to speak with much authority, and his words were cheered with great enthusiasm.

A colleague on the Council of the British Medical Association writes warmly of his work on behalf of this body: "In him the Association has lost a friend whom it can ill spare. In its early years, when the Association was encompassed by debts and a cloud of difficulties of all kinds and on all hands, Dr. Long Fox was better known amongst the rank and file of its members than he was in later years." He did much to help it through the difficulties of those early years, and "those who knew him longest will most keenly feel the loss the Association has sustained."

Of his many contributions to medical literature, of which we append a summary, the more noteworthy are the two larger works, *The Influence of the Sympathetic on Disease* and *The Patho-*

logical Anatomy of the Nervous Centres. Both of these were at the time regarded as standard works on the nervous system, giving evidence of much original thought and careful research. In 1881 he gave the Presidential Address to the Bristol Medico-Chirurgical Society, and chose for his subject "The Medulla Oblongata."

The local branch of the National Association for the Prevention of Consumption was much indebted to him in acting as Chairman of the General Committee from its initiation till within a few months of his death. No one took a keener interest in the promotion of this work, and it was at a meeting in Dr. Long Fox's drawing-room at Church House that it was decided to take some action towards the establishment of a local branch and towards the establishment of the Three Counties' Sanatorium which it is now proposed to erect at Winsley for the counties of Gloucester, Somerset and Wilts.

In middle life Dr. Fox was frequently the subject of acute attacks of gout, but for many years he remained almost free from acute symptoms. About eight years ago he suffered from pains in the lumbar region and some polyuria, which led him to test for and discover the existence of glycosuria. But with characteristic pluck and determination he continued his practice with undiminished devotion, and was enabled to carry on his work up to his last and fatal illness. In July of last year he went to West Malvern, hoping much from rest and change of air. He was able to resume work on his return for a short time only, when his increasing weakness compelled him with great reluctance to desist. He suffered acute pain for many weeks, associated with a symmetrical multiple neuritis, affecting the forearms and legs. On Christmas eve thrombosis of the right femoral vein occurred. This cleared up; but later, a few weeks before his death, thrombosis of the left femoral vein supervened. Towards the end his heart became dilated, and a well-marked mitral bruit was audible. Throughout his illness and during the last few months when Dr. Shaw and his son-in-law, Dr. Watson Williams, were in constant attendance, he always exhibited the greatest patience in his suffering and the tenderest solicitude for those around him.

The funeral service was held at Clifton Parish Church on March 31st, when the presence of a very large number of mourners assembled to show their regard for the deceased testified how great a loss the city, and more especially the medical part of it, had sustained.

We have been so accustomed to see Dr. Fox always present at any medical function, that no meeting has seemed complete without him; his genial personality and his wise counsel have been so long looked for and so rarely sought in vain, that the gap caused by his death must long remain unfilled. Bristol has lost one of her best loved and most prominent citizens: the medical profession has lost one who has long figured as its head, and to whom the following lines may well be applied:—

[1] The wisdom of thy common sense,
Thy honest hate of vain pretence,
Thy love and wide benevolence
Full often lead thee
Where feeling is its own defence.

* * * *

And well the poor man thou befriendest,
And oftentimes an ill amendest.

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Yours faithfully,

Bonville B. Fox

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BONVILLE BRADLEY FOX, M.A., M.D. (Oxon.)

We record with sincere regret the death of Dr. Bonville Bradley Fox, of Brislington House, at the early age of 49, a few days only after that of his half-brother, Dr. Edward Long Fox, of Clifton. Dr. Bonville Fox, like his brother, took a warm interest in the Bristol Medico-Chirurgical Society, and until his health failed was a regular attendant at its meetings, and a valued contributor to any discussion connected with nervous or mental diseases. He would indeed a few years ago have occupied the Presidential Chair, but reasons of health compelled him to decline this office.

Dr. Bonville Fox was the son of Dr. Francis Ker Fox by his second wife, the eldest daughter of the Rev. Charles Bradley, and sister of the present Dean of Westminster, and of the wife of Dr. E. Long Fox. He was educated at Dr. Hudson's School, Manilla Hall, Clifton, and at Marlborough College, subsequently proceeding to Christ Church, Oxford, whence he graduated M.A. in 1870. The medical part of his education he received at St. George's Hospital. After taking the M.R.C.S. in 1878, he acted for six months as Assistant Resident Medical Officer at Bethlehem Hospital. He took his M.B. Oxford in 1879, and M.D. in 1882. After leaving Bethlehem he became Resident Medical Officer at Brislington House, which, under the administration of his father, had become one of the best known asylums in the country, and has ever since maintained its reputation.

On the death of his father he became joint proprietor with his brother, Dr. Charles Fox, and sole proprietor since the retirement of the latter.

Dr. Bonville Fox married the daughter of the late Mr Tom Danger, who was for many years Clerk of the Peace for this city, and leaves a family of two sons and one daughter.

He was widely known, and held a high position in his own branch of medicine, and his advice in cases belonging to his speciality was frequently sought and highly valued, being the fruits of an extensive experience and sound judgment. He contributed the article on "Exaltation" to Tuke's *Dictionary of Psychological Medicine*, several papers to the *Journal of Mental Science*, and one to this *Journal* on a very remarkable case of "hystero-epilepsy." He was an excellent and thoughtful speaker, and his contributions to the debates at the local medical societies were invariably listened to with respect and attention.

In addition to his heavy professional work, Dr. Bonville Fox found time to devote to public matters. He was for many years a member of the Keynsham Board of Guardians, where he showed himself to possess great business abilities, and was for a considerable period vice-chairman. He was a strong Conservative in politics, and an active worker in the cause of his party, rendering great assistance to the Brislington District Conservative Committee. He was also strongly interested in agricultural matters, and was a useful member of the committee of the North-East Somerset Farmers' Club. Dr. Fox was fond of all outdoor pursuits, was a good shot, and an enthusiastic lover of cricket. He himself was a cricketer of more than average merit, and was a valued member of the village club, which he frequently captained. In private life Dr. Bonville Fox was a most witty and genial companion, well-informed and widely read: to those who had the privilege of his friendship he was a warm and constant friend. He was greatly esteemed by his professional brethren, and by a large circle of friends and neighbours. His death followed on a long and painful illness, and the sufferings it involved were borne by him with patience and fortitude. He was buried in the private cemetery of the

family at Brislington on April 5th, when a large company assembled, the ladies and gentlemen of Brislington House and the staff being well represented, together with many relatives and friends from a distance.

Dr. Lionel A. Weatherly writes of him :—

"Dr. Bonville Fox will be much missed by the members of the Medico-Psychological Association. For years he was a very regular attendant at the quarterly meetings, and he had been a member of the Council. His thoughtful and scholarly mind was appreciated by all who knew him, and whenever he rose to speak he commanded immediate attention and respect, for all the members of the Association recognised that he seldom brought forward an opinion which had not been carefully weighed and logically reasoned. All remember his capital paper on 'Exaltation in Chronic Alcoholism,' and the interesting discussion which followed, while those of the Association who were so fortunate as to be his guests at the meeting held at Brislington House, on May 1st, 1891, will long remember that pleasant day and his courteous and kind hospitality. His death causes a gap in the Association not easily to be filled, and we mourn with many the loss of a kind heart, a scholarly mind, and an ever-thoughtful courtesy."

We are glad to be informed that Brislington House Asylum will be conducted as heretofore, for Mrs. Bonville Fox will continue to take an active interest in the welfare of the inmates in conjunction with the two medical officers.

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THE DIAGNOSIS OF ORIENTAL OR BUBONIC PLAGUE.[1]

BY

E. KLEIN, M.D., F.R.S.

WITHIN recent years it has become more and more evident that the diagnosis of plague in sporadic cases, from the clinical and pathological appearances, is of a very uncertain nature. This uncertainty is not removed if the case or cases occur in a locality which is in communication by sea or land with a country in which plague is prevalent. Those whose province it is to discover the first cases, in order to institute the necessary measures of precaution against the spread of the disease, are well aware that a febrile rise of temperature, together with acute enlargement of one or the other set of lymph glands, occurring in a person who directly or indirectly has been in some relation to an infected locality, are not sufficient evidence to make the diagnosis of bubonic or Oriental plague.

I am, of course, assuming that other causes—*e.g.* venereal, Hodgkins's disease—are excluded. Real plague is caused by a well-defined species of bacillus—bacillus pestis, which I shall presently have occasion to illustrate fully in its morphological, cultural, and experimental characters. It is admitted that however similar to plague the clinical and pathological features of a given case are, if it does not yield, on competent bacterioscopic analysis, the bacillus pestis, the case cannot be diagnosed as true plague.

Owing to the existence of plague in India, the Cape, Egypt, Arabia, Asia Minor, South America, and other places, it is, of course, a matter of possibility that at any time a ship may bring the infection from those countries into England, and, as is known, individual cases of plague have been so imported, but fortunately have been identified and successfully dealt with, without causing any spread of the infection.

[1] An address read before the Bristol Medico-Chirurgical Society, March 12th, 1902.

With the exception of a single case in Cardiff and a few cases in Liverpool, England and Wales have hitherto not had any internal or endogenous case of bubonic plague. This, I think, affords a striking testimony to the vigilance and circumspection of the Local Government Board, and particularly of the port sanitary and health officers in the different parts of the country.

In this connection, I may be allowed to offer my particular congratulations to the success of the Health Officer of this city, which, by its enormous sea trade, is one of the great portals in which plague might in the natural course of things find an entrance.

Several cases have been notified from different ports which, from their clinical and anatomical symptoms, were suspected to be plague, and which on bacterioscopic analysis were shown to be real plague. Other cases, however, which by their clinical symptoms aroused suspicion, were, on bacterioscopic analysis, shown not to be true plague. I will, for illustration, mention a few of these:—

(1) T. B., St. Bartholomew's. Fever and painful swelling of inguinal glands, particularly on right side; no leukæmia; was bacteriologically proved not to be plague; epidemiologically, mother was in the habit of buying rags in Islington market and bringing them home.

Of the same kind was G. M., Hammersmith. Fever and swelling of glands in neck and axilla and groin; he was a waterman, working a barge carrying timber brought from over sea to London docks. This was a case of streptococcus infection.

In both these cases there was epidemiologically a justifiable suspicion; clinically, the case appeared with symptoms which agreed with those of the bubonic type of plague. Both recovered.

Now, in connection with these and similar cases, it is necessary to consider a theory which has been put forward lately to this effect: In these and similar cases it is said the swelling of the lymph glands, together with a febrile rise of temperature, not being accounted for either by leukæmia,

Hodgkins's disease, or by venereal trouble, represent a disease, not true plague—*i.e.* is not due to the bacillus pestis, but is found in some way or other to occur antecedent to an outbreak of true plague, and for this reason the disease is to be called "pestis minor." I take this opportunity of protesting as emphatically as is in my power against this theory, and to add that, apart from its not being justified, it is mischievous and misleading. If there is one thing well established about plague, it is the fact that it is a specific communicable disease, and is due to a specific well-characterised species of bacillus—the bacillus pestis. To say of a disease, "it is like plague, and it foreshadows plague, but is not itself the true plague, and it is not due to the bacillus pestis, but nevertheless we will call it pestis minor," is, to my mind, meaningless. If the disease is not plague, and is not due to the bacillus pestis—that is to say, if it is some other and different disease,—why call it "pestis" or plague at all?

I may further point out that the Plague Commission sent out to India, to investigate plague, in their report use the term "pestis minor" in the way it ought to be used; viz., to designate the mild form of true bubonic plague, also spoken of as pestis ambulans, in contradistinction to "pestis major" or the severe form of bubonic plague.

(2) A form of plague characterised by severe, acute pneumonia, but not associated with buboes, is from a clinical point of view indistinguishable from other severe forms of pneumonia. Its identification as plague can only be made by bacterioscopic tests. Such cases are of the gravest importance on account of the expectoration and the tissue of the inflamed lung in general containing an abundance of the plague bacilli, and for this reason these cases possess a high degree of infectivity.

A case of acute, severe pneumonia and death within forty-eight hours, occurred in London; it was notified as plague, but bacterioscopic analysis proved it to have been severe typical croupous pneumonia.

(3) A third form of plague is the septicæmic, which cannot be distinguished from a hemorrhagic septicæmia

except by bacterioscopic analysis. An instructive case was the following: A nurse in London; she was taken ill on a Thursday, and was dead on the Monday following; owing to an extensive rash and hemorrhage, the attending physician, having seen similar appearances in the East in the septicæmic cases of plague, suspected the case to be one of septicæmic plague. But the subsequent bacterioscopic analysis proved it to have been a case of septicæmia due to the presence abundantly in the circulation of two different microbes, one of which was the diplococcus capsulatus (pneumoniæ), the other a microbe having some points of resemblance to that of bacillus pestis, but easily distinguished from it by culture.

I could multiply these instances to show that it is quite impossible, from a clinical point of view, to diagnose a sporadic case of plague, even when the epidemiological evidence—viz., as to having been directly or indirectly in relation to an infected locality—might point to plague. Not a few times have I had to examine material from persons, who either coming from an infected locality or in connection with a port, showed symptoms of a mild form of bubonic plague, but who, on bacterioscopic evidence and by subsequent events, were proved not to have been so affected. And likewise I have had to deal with materials derived from persons who on clinical grounds were not considered as plague, but on bacterioscopic analysis were proved to have a mild form of bubonic plague, *i.e.* pestis ambulans.

Now, what are the bacteriological facts which characterise true plague, and which enable us in a given case to make the diagnosis of true plague? It must be obvious that the bacteriological tests, in order to be of decisive nature, must be such as not to admit of any doubt or cavil; that is to say, the identification must in all respects be definite—as definite as, for instance, in malignant anthrax or in tubercle.

Now, there are cases in which the diagnosis of plague can without further difficulty be made from microscopic appearances combined with culture:—

(*a*) In the severe form of bubonic plague, very striking and characteristic are the microscopic appearances presented by

the swollen lymph glands and the surrounding hemorrhagic tissue of the bubo; a film specimen of the sanguineous exudation is seen to be crowded with short bacilli, as shown in the accompanying lantern slides. The same appearances are presented by the tissue and exudation of the bubo at and near the seat of inoculation in a rodent a day or two after injection of matter derived from the bubo of a case of real plague, as also in the case of rats which have naturally contracted the disease.

In the case of pestis minor (ambulating or sub-acute form), the disease is indicated by the swollen and suppurating lymph-glands; the presence of the bacillus pestis in the exudation and pus cannot easily and definitely be ascertained by microscopic specimens alone, since they are comparatively few and generally amongst crowds of other microbes; here the culture test is indispensable.

(*b*) In acute plague pneumonia (see illustration) the congested lung and the copious sanguineous exudation in it is crowded with the plague bacilli; in cases like those illustrated here (Hull cases) the microscopic examination alone is sufficient to make the diagnosis.

(*c*) In the septicæmic cases of man, and in the fatal natural disease in rats which generally is of the septicæmic type, the blood and particularly the spleen contain the plague bacilli in great numbers; but the bacilli are not to be found in the blood of cases of the bubonic or pneumonic type of man, until the fatal issue.

Calmette's statement that the blood in cases of bubonic plague as a rule contains the plague bacilli is certainly not in accordance with the facts or with the experience of other observers.

Staining Character of Plague Bacilli.—Bipolar staining is not characteristic for two reasons: the polar staining is not constant, particularly in culture specimens; nor is it common in the bacilli from the buboes or from the spleen. It seems to me dependent, besides, on certain phases in the life of the microbe. I am inclined to think that the condition of marked polar staining—*i.e.* a vacuole in the centre, the chromatic substance at the poles—indicates rather the reverse of the

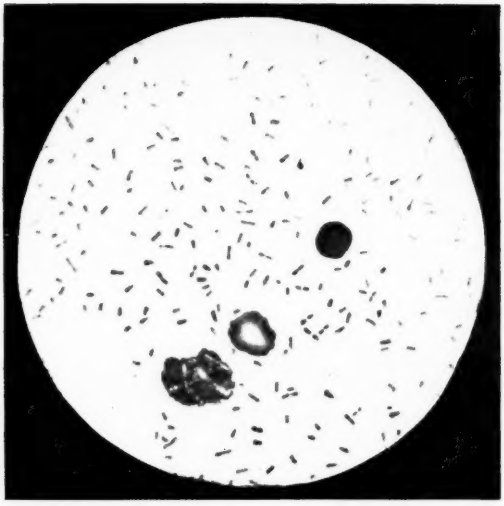

FIG. 1. *Bacillus Pestis. Stained specimen from juice of acutely inflamed gland.* (× 1000.)

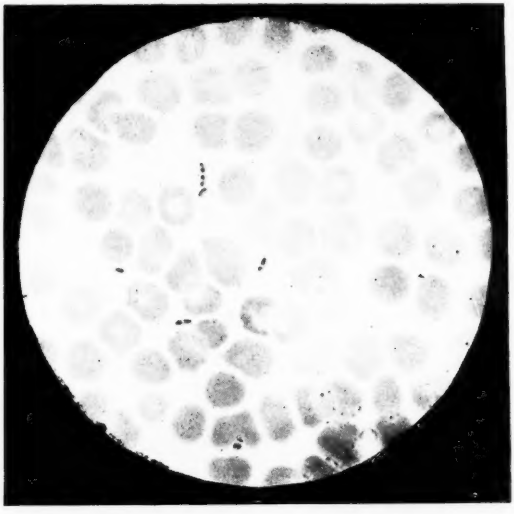

FIG. 2. *Bacillus Pestis. Stained specimen from blood of infected animal.* (× 1000.)

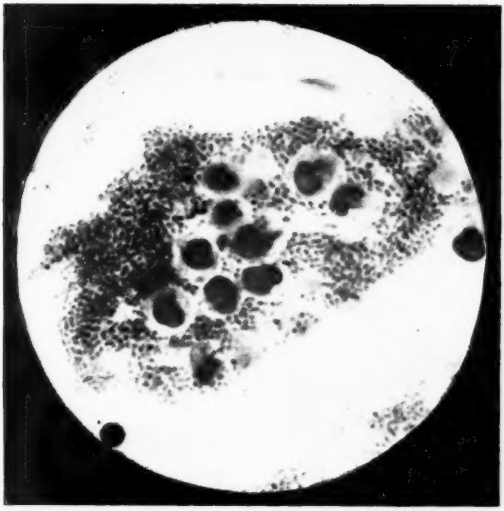

FIG. 3. *Pneumonic Plague. Masses of plague bacilli in inflamed lung.* (× 1000.)

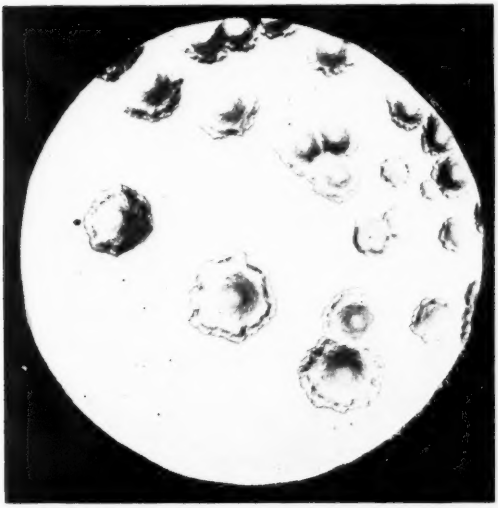

FIG. 4. *Bacillus Pestis. Showing characteristic appearance of colonies after several days growth on nutrient gelatine.* (*Low magnification.*)

For these plates we are indebted to the courtesy of the Editor of *Public Health*. They are reprinted from

active vigorous state; whereas the absence of polar staining in the bacilli seems to me to indicate a vigorous and normal protoplasm, uniformly filling the bacilli.

This condition of polar staining is, however, not peculiar to the plague bacillus, since many other bacillary species show this, *e.g.* some species of the colon group, the influenza bacillus, and a peculiar, highly virulent bacillus which I have recently isolated from the blood of a case dead of hemorrhagic smallpox. It would be, therefore, a great risk for any bacteriologist to make a diagnosis of plague merely from the microscopic examination of stained films of a case, say of pneumonia. As a matter of fact, I can quote, besides the cases already quoted, another one of acute pneumonia which was mistaken for plague pneumonia. In this latter the diagnosis of plague was made in a case of acute pneumonia; the diagnosis was based on the presence of numerous polar stained bacilli in the sputum, and from the further fact that guinea pigs subcutaneously injected with the sputum succumbed with hemorrhagic infiltration at the seat of inoculation and enlarged spleen; in the local exudation, as also in the spleen tissue and the blood of the animal, the polar stained bacilli were present in great numbers. But this diagnosis of plague was altogether wrong, because, as was conclusively proved, the bacilli were not those of plague, but a motile, very virulent variety of bacillus coli. I need hardly point out the important financial consequences which would arise if, in any large mercantile centre, suddenly a case of endogenous plague pneumonia were actually notified. It is therefore necessary, before pronouncing on a case, to make quite sure that the diagnosis is based on safe ground.

A second instance of pneumonia suspected to be plague on account of its high infectivity to others living in the same family, was a severe form of influenza pneumonia, the expectoration being crowded with bipolar influenza bacilli; culture and animal experiment left no doubt in the matter.

Numerous lantern slides were shown to illustrate the characters of the bacillus in cultures on various media, gelatine, agar, broth, in plate and in tubes; and the process of agglutination was described.

Experiments on Animals.—The plague bacillus and any matter containing it causes on cutaneous or subcutaneous inoculation into rodents a definite acute septicæmic disease, with fatal issue in two, three, or more days. The animals show swelling and hemorrhagic infiltration of the lymph glands and the surrounding connective tissue at or about the seat of inoculation, *i.e.* typical bubo; the exudation of the bubo is crowded with plague bacilli; the blood contains the bacilli, sometimes in relatively small numbers, sometimes in great crowds; the spleen, as also other internal lymph glands are deeply congested and crowded with the plague bacilli. Amongst the animals most susceptible to the disease by subcutaneous inoculation are rodents, guinea-pigs, mice and rats; the rabbit is less easily infected. On account of the more accelerated action the intraperitoneal injection of suspected plague material and plague culture is of greater help in forming the diagnosis rapidly, for after injection of small to moderate doses the animal is dead within twenty-four to thirty hours. On *post mortem* examination the abdominal viscera are found intensely congested, the peritoneal cavity contains viscid grey exudation, which under the microscope is found densely crowded with the plague bacilli, many of them arranged in chains. The intraperitoneal action of b. myxoides was here described. Small grey necrotic patches in the lung, spleen or liver are found in experimental guinea-pigs after inoculation if the disease takes a sub-acute character, *i.e.* death not taking place till about a week or more after inoculation.

It must, however, be borne in mind that although the plague bacillus acts more promptly and in smaller doses in the peritoneal cavity than when injected subcutaneously, the degree of virulence—*i.e.* the amount necessary to cause a fatal issue—is subject to great variations. I possess, for instance, plague cultures which proved of comparatively very low degree of virulence, while others were extremely virulent; thus Oporto and Yeddah cultures, Hull pneumonia, Cardiff rat, London case of 1896, represented various degrees of virulence, the last-named yielding the most virulent cultures.

A point of great interest is the distribution of the bacilli in

man and animals affected with plague: in the bubonic type of plague the bacilli are, as a rule, not present in the circulation in the acute stage till shortly before death. In pestis ambulans the suppurating bubo contains few plague bacilli amongst crowds of other microbes, but on account of the discharge of the open sore the danger of spreading the contagion must be considered as real; whereas in the acute stage of the bubonic type this danger—viz., discharge of plague bacilli—is slight or does not exist. In the pneumonic type, on the other hand, owing to the presence of the plague bacilli in the sputum, the danger of infection through the air is a prominent feature. Similarly, owing to the discharge of plague bacilli in all excretions (lung, kidney, alimentary canal) in the septicæmic or hemorrhagic type, the danger of spread of the contagion is very great indeed.

As to animals which have contracted the disease naturally—I refer, of course, principally to rats—the danger of spread of the contagium through these must be considered a reality, on account of the fact that in the rat the natural disease is generally of the septicæmic type; hence plague bacilli can be demonstrated in the excretions, lung, intestine, and kidney. While admitting this, it must not be supposed by any means that this is the principal or the only manner in which plague is spread to and amongst human beings. This is not only not proved, but the existing evidence is directly opposed to it. Professor Koch, in his address to the Congress on Tuberculosis, July, 1901, implies that the whole problem of the importation of plague is of great simplicity; viz., that the rat is the sole instrument by which plague is imported and spread. I consider this something of an exaggeration, and at the same time a statement which is apt to lead to one-sided precautions and faulty steps; for if this view were accepted it would detract the attention of health officers from another real source of danger—real because based on well-observed facts—viz., importation by infected persons and infected articles (clothes, merchandise, &c.).

The Plague Commission in India, while admitting that in some localities outbreaks of plague amongst human beings had been due to rats and in other localities were spread by them,

state that in the majority of outbreaks such was not the case, but was due to importation of human cases, or, oftener still, of clothes and effects of persons affected with plague or coming from infected localities. In these instances a mortality of rats from plague was the *result*, but not the *cause*, of plague having broken out in the locality. The first outbreak of plague in Glasgow in 1900 is a good illustration of absence of any evidence as to the rat.

Cardiff is an instructive instance, because it shows (*a*) that a case of plague in man did arise owing to plague amongst rats, and (*b*) that the transmission of plague from the rat to the human being, even if rats die abundantly from plague, is not very high.

While, then, the danger of importation and spread of plague by the rat is a real one, it must not detract our attention from the greater danger of importation and spread of the disease by human intercourse, by clothes and personal effects coming from an infected person or an infected locality.

Prophylactic Serum and Therapeutic Serum.—The Plague Commissioners have collected a large body of evidence, both in regard to observations made by competent medical officers in various parts of India, as also in regard to direct observations under their own direction, showing that none of the sera at present in use—Yersin's serum, Lustig's serum—have any therapeutic effect either as to their diminishing the incidence of disease when used prophylactically or reducing the case mortality when used as a therapeutic agent; in fact, the Commissioners rather think the reverse from recommending its use. It has to be remembered that in India in various parts the sera (both Yersin's and Lustig's) were used on a large scale and in various outbreaks, and the Commissioners' conclusions are therefore not merely based on the observations of a few cases in a limited and mild epidemic. This is important to mention, since, for instance, the favourable results which Calmette records in the Oporto outbreak with Yersin's serum, and similar favourable results recorded by Lustig and his assistants in India, are the result of a comparatively limited number of observations gathered not in outbreaks of severe

type, but more or less on selected cases of a comparatively mild type.

It is different with regard to injection of Haffkine's plague prophylactic, *i.e.* sterilised plague broth cultures; for as to this the Commissioners have been able in certain localised outbreaks (jails, hospitals) to record definite and positive results, confirming Haffkine's conclusions as to the injection of the prophylactic acting as a real preventive. It both decreases in a marked degree the incidence of the disease, and, failing this, it diminishes the case mortality. The Commissioners add to this that, granted the proper virulence of the plague bacilli with which the broth culture was started, and granted the normal and typical amount of growth in the culture, a single injection of the proper dose of the previously sterilised culture is sufficient. A repetition of the injection, as at first projected, is not required to insure protection.

While all this is admitted, there is another not less important fact which should not be lost sight of—I mean "prevention."

In this the Medical Officers of Health and the Port Sanitary Officers are our best and safest reliance, and it is to them that the real work, and naturally the greatest credit, will have to be assigned. Let us hope that such work and such credit is and will be duly recognised and appreciated.

In the discussion which followed,

Dr. D. S. Davies said: We are all very highly indebted to Dr. Klein for his interesting and practical paper on the bacteriology of plague, and his remarks should teach us to be alert in order to detect an atypical or stray case. But on one point, if I may venture to criticise so high an authority, I must clearly differ from Dr. Klein. He states that in his opinion Koch attached too great importance to the influence of rat infection, and he considers that this induces the danger that Port Medical Officers will neglect due precautions against the other admitted danger of human introduction. I am glad, however, that Dr. Klein definitely admits the reality of rat infection, even though he assigns it a position of subsidiary importance. But, in relying upon the results of the Indian

Plague Committee, who not only made their observations at a date which now renders their report almost ancient history, and at a time when the universal infection of India tended to obscure the lines of causation, he practically ignores the immense additions to knowledge of the past two years, gained in the plague records of newly-attacked countries, and especially in the systematic and convincing report of the Sydney outbreak by Dr. Ashburton Thompson, wherein the slight infectivity of bubonic plague from man to man was clearly demonstrated, and the effective and persistent nature of rat infection was lucidly and forcibly exhibited. Nor has Dr. Klein produced one grain of evidence against the statement of Koch that "in the majority of cases in which the plague has been transmitted by ocean traffic the transmission has taken place by means of plague among the ship rats," or against the view adopted by the Imperial Health Office at Berlin that "plague follows for the most part the routes of the great sea traffic and takes root in seaports, and when introduced by human beings, even under unfavourable hygienic conditions, frequently remains without further consequences, and in those ports where it has developed into an epidemic could hardly ever be traced to the arrival of a plague patient." In other words, he has not disproved the evidence that plague, when it is introduced by persons, may readily be exterminated; when it is introduced by rats, followed by infection of the shore rats, *it has come to stay*. Grain boats appear to be the most dangerous.

The remarkable unanimity with which country after country, when they have had actual experience of plague, adopt stringent and searching measures against rat infection, as evidenced in Australia, in Russia, in Turkey, in Japan, shows how compelling is the prick of experience, and suggests the folly of waiting for similar experience before safeguarding against this admitted and urgent risk. The few English experiences furnish cases in point.

The Hull introductions of 1900 were shipborne, but were all human, and though not at first recognised, and pneumonic, and therefore highly infectious, were yet readily controlled, because the rats were not affected. The Liverpool intro-

ductions of 1901 were human, were not for a time discovered, but, as no rat infection had apparently supervened, were readily controlled. The Llandaff case was human; yet, though he travelled across England, he infected no one and led to no outbreak. The Glasgow 1900 outbreak was *apparently* human, and yet, though weeks intervened with some spread, the human outbreak was readily controlled when detected. It is true that some rats then examined did not show evidence of plague, but it was never shown that rat infection might not exist, and the want of a Port Sanitary Authority for Glasgow rendered supervision over ship rats ineffective. Also, the second outbreak of 1901 after some months is quite consistent with the known habits of rat plague: slow, steady spread until the chance of intimate human and rat contact allowed of the outburst of a second human infection, which is in reality a mere fringe of the slow-spreading underground rat epizöotic. The opportunity occurred in the basement of a big hotel, the food department whither rats were attracted, and where they came into intimate human contact, and the usual human outbreak resulted. Examination then showed serious implication existing beyond the hotel precincts, and pointing pretty definitely to a continuous rat infection from the previous outbreak. Plague, having reached the rats, had come to stay: who shall say for how long? There does seem a necessity for intimate association in dwellings in order to secure infection of man from rat. This did not happen in Cardiff as it did in Glasgow, and therefore no human infection resulted.

I do not think there is any risk of Port Medical Officers neglecting human introductions of plague—the existing regulations are clear, stringent, and binding; obscure cases must of course be carefully watched for; but I do think there is risk of rendering the position of Port Medical Officers very difficult, if the misunderstanding should go forth that so high an authority, a trusted adviser of the English Government minimises the importance of this established form of danger. It would render yet more difficult the already most ungrateful task of attempting to exclude plague by keeping infected ship rats from coming on shore, while ships are permitted to carry

droves of rats from port to port. We have been through the experience once, and have saved the town from severe pecuniary loss, and the possibility of endemic plague, but we desire no further such experience.

I feel, however, that Dr. Klein's position is not in reality very different from my own; he equally recognises the reality and urgency of rat infection, but he differs as to the relative academical importance of rat and human infection. But Dr. Klein cannot escape from this position:—

If he grants that there is merely a possibility of rats on board ship conveying plague to distant countries, then it must be conceded that their destruction is advisable. But if the belief be not merely that such a mode of extension is possible, but that it is, in all probability, the only dangerous mode of extension, then the destruction of rats becomes a matter of the most vital importance; and the gravest responsibility rests upon Governments and their advisers in opposing any measures which may tend to protect their country against the visitation of this dreaded disease.

The common-sense precaution is to insist, as Australia insists, upon destroying rats *ab initio* in the vessels before loading; this is easily done by fumigation, and periodical attention will keep them free, while precautionary measures are of course taken while loading or unloading at intermediate ports. This policy of rat-free merchant ships has been endorsed by the Turkish Government, and should be internationally agreed to by the European Governments in their own best health interests.

Dr. R. FARRAR, who formerly served on the Plague and Famine duty for the Government of India, insisted on the importance of regarding plague infection as primarily an infection of locality. The rat must be regarded as the principal agent in the spread of infection, which is acquired by contact with soil contaminated with the excreta of plague-rats, infection by means of human intercourse being of relatively minor importance. In proof of this contention the speaker pointed out that plague is endemic in certain places, notably at Kumaon at the foot of the Himalayas,

and at Shantung in China, etc. When it becomes epidemic the infection is almost invariably seaborne, appearing first in seaport towns. Human epidemics are preceded by the occurrence of epidemic mortality among rats, which are found to be infected with the plague bacillus. Epidemics tend to remain strictly local, instead of spreading rapidly along lines of human intercourse. Thus, Cairo has been known to remain unaffected while plague was raging in Alexandria, and *vice versa*; and of two villages less than 500 yards apart, one might be decimated by plague, the other being exempt, etc. Plague spreads in a town from house to house "like oil on paper," taking weeks or months to spread from one spot to another.

In contending with plague epidemics the policy adopted in India from time immemorial has been that of "evacuation." If infected quarters are evacuated, epidemics are promptly checked, showing that plague is an infection of soil and not conveyed to any great extent by human intercourse. The method of evacuation has been found to be most successful in dealing with the recent epidemic in India. Evacuation checks a crescent epidemic, lessens mortality, shortens the duration of epidemics, and if promptly carried out in villages tends to arrest disease *in toto*. As carried out in India, this policy involves three lines of defence: (1) Hospitals; (2) Observation camps for "contacts"; (3) Health camps. The effect of health camping in Poona was found to be "almost magical." Among six thousand people taken from the worst infected area, only one undoubted case of plague occurred after they had returned to their homes. Immediate disinfection of houses, combined with evacuation, may have a positively harmful effect, from the fact that plague-smitten rats, which would die under the floor of the infected house if left undisturbed, are evicted, and migrate, carrying the infection to neighbouring premises. Disinfection of evacuated houses should be deferred for at least ten days. When isolated cases of plague occur after wholesale evacuation they are nearly always to be traced to the fact of persons secretly visiting their houses against orders, often for the purpose of recovering money which has been buried under the floor. When the soil

is infected, plague spreads far more rapidly among bare-footed natives clad in their cotton garments than it is ever likely to do among well-shod and substantially-clad Europeans. Hospital infection is so rare as to be almost a negligeable factor. When cases do occur they are of the pneumonic type.

The inference drawn by the speaker from those and other facts was that plague is always in the first instance a soil infection, conveyed by rats. To guard against this infection of new countries, it is of the first importance to prevent the landing of rats, measures directed to this end being more urgently required than those aimed at the detection and isolation of human cases. Dr. Farrar cordially endorsed the policy of rat-free ships advocated by Dr. Davies.

Dr. SYMES was of opinion that the evidence brought forward in favour of the transmission of the disease from rats to human beings was very untrustworthy and the arguments would apply with equal force to many other diseases, such as typhus fever. He enquired into the resistant powers of the B. pestis and the best methods of staining.

After the discussion, Prof. KLEIN said further:

We are all agreed on the danger of rats, but we are not quite agreed on the point of the relative degree of danger from human beings and from rats; but I feel that rats ought to be destroyed on board all ships.

TWO CASES OF LOCALISED NECROSIS OF THE LUNG, WITH RECOVERY.

BY

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I HAVE called these cases localised necrosis of the lung, as the term seems to me to best embody the conditions present. Gangrene of the lung is by common consent applied to those

cases in which the necrosis extends over a very wide area or involves all of one lobe of a lung. I am aware that many observers would class these cases as examples of localised bronchiectasis; and if we include under this term ulceration through the wall of the bronchus affected and destruction of an area of the neighbouring lung, this designation would be correct. But in calling such cases bronchiectasis, I think undue stress is laid on what is only a subsidiary and not the main part of the pathological process. Some irritant, generally of bacterial nature, lodges in a bronchus—as in the second of these two cases, where the pulmonary disease undoubtedly originated in the passage of a drop of pus from a peritonsillar abscess into a bronchus,—sets up inflammation, with ulceration, of the bronchial wall, and through this attacks the neighbouring lung tissue. In this there starts a patch of localised inflammation, which, if very intense, leads to necrosis of a small portion of lung or to the formation of an abscess in it. No doubt the affected bronchus undergoes dilatation either early from ulceration of its wall or later from contraction of the fibrous tissue which is formed in the attempt at repair of the mischief; but the chief cause of the symptoms lies in the changes in the surrounding lung tissue, and until these are removed no amelioration can result: hence I have preferred to lay stress on this part of the morbid process. It was on this view of the nature of the conditions that had to be dealt with that operation was resolved upon in each case; and it was thought that even if the exact seat of mischief were not reached, the inflammatory products might find their way through the intervening tissues into the drainage-tube, as had happened in other reported cases with succcessful results. This was also the fortunate result in my second case.

Probably the large amount of expectoration, of precisely the characters regarded as typical of bronchiectasis, depends on irritation by the highly toxic products of the diseased area of the mucous lining of the bronchi of the lower lobe of the lung, accompanied by acute dilatation of them. It would be difficult to account for such large quantities of sputum on any other view, and the sequel shows that this is the true explanation,

and further that the condition is a temporary one; for when the conditions at the original source of disease have been relieved, these other (secondary) symptoms disappear. In both cases the absence of any of the usual causes which give rise to bronchiectasis and the acute character of the onset of the illness is noteworthy. In the first the cause of the lung mischief was obscure, and the relief must apparently be attributed to the intra-tracheal injections, which have been found effective in other such cases, as the improvement after exploration of the lung could hardly have been more than a coincidence.

H. C., æt. 47, an iron-plate worker, had always enjoyed good health, with the exception of an attack of rheumatic fever at the age of 20. It is important to note that he had never suffered from bronchitis, winter cough, or any chest affection. The present illness began five weeks previous to admission with pain in the back, which quickly passed to the right side of the chest, where it remained. He has suffered from cough, worse at night, and coming on in paroxysms, with the expectoration of a quantity of thick, viscid sputum, very offensive both to taste and smell. He was never sick with the cough, and occasionally the expectoration came up without any cough at all. He sweated profusely at night, and had lost flesh rapidly.

On admission he was pale, the appetite was bad, the tongue furred, the bowels loose, the temperature 102° F., the pulse 100, weak and compressible, the arteries somewhat thickened, and the respiration rate 24.

There was marked clubbing of the fingers. The cough was violent and paroxysmal, and the breath extremely offensive after a fit of coughing. He brought up a quantity of sputum, which was expectorated fairly easily, had the horribly offensive odour of the sputum in pulmonary gangrene, and on standing separated into four layers, the uppermost frothy, the next nummular greenish-yellow masses, in the third a watery fluid, and at the bottom a finer *débris*, which consisted, under the microscope, of small portions of lung-tissue, of large squamous cells, smaller epithelial cells and pus-cells. Most of these cells had undergone marked fatty degeneration; there were no crystals of the fatty acids, and tubercle bacilli were absent.

On examination of the chest there was harsh breathing over the front of the right lung, and at the back there was an area of dulness extending from the fifth rib above to the ninth rib below, outwards as far as the posterior axillary line, inwards to the spine. Over the upper part of this area, as low as the lower angle of scapula, the breath-sounds were harsh to bronchial, with spongy or sticky crepitant râles, and the vocal resonance increased. Below this both breath-sounds and vocal

resonance were diminished. In the sixth space, one inch from the spine, was an area the size of a crown, over which was absolute dulness, cavernous breath-sounds, bronchophony, and whispering pectoriloquy. Over the whole of the above area of dulness the chest-wall was œdematous. The left lung was normal.

The heart and abdominal organs were healthy. The urine, of low specific gravity, contained no albumin or sugar. There was some kyphosis of the upper dorsal spine.

He was ordered a nourishing diet with port wine, a stimulant expectorant mixture, and intra-tracheal injections twice daily of creosote, menthol, and olive oil.

During the next ten days the cough was very bad, disturbing his sleep; the expectoration, which was abundant, and the breath, were horribly offensive; the pulse was weak, varying from 100—120; the respirations were 28; and the temperature very irregular, ranging from 99° in the morning to 102° or 103° at night. The characters of the sputum remained as given above, and the physical signs showed no alteration. At the end of this time, as the patient was steadily losing ground as regards his general condition, and as the physical signs and symptoms pointed to a patch of necrosis of the lung or a small abscess within it, it was decided to make an attempt to reach and drain the seat of mischief.

Under an anæsthetic Mr. Morton therefore carefully inserted the large needle of an exploring syringe in several places over the dull area at the back of the right lung; but, failing to find pus in any one of them, decided to do no more at that time. During the evening the patient coughed up a quantity of blood-stained offensive sputum, but in other respects was no worse. During the following two days the temperature gradually fell to normal, and the patient felt easier and was free from pain. The intra-tracheal injections were continued, and in addition creosote ♏v. was given every four hours by the mouth.

On August 10th (five days after exploration) the temperature was normal, after rising to 101.5° on each of the two previous nights. The fœtor of the sputum was less marked, the conditions as regards sputum and condition of lung much the same.

On August 17th the general condition of the patient was much improved: the temperature had remained normal, the tongue was cleaner, the pulse improved, the cough less, only occurring now in paroxysms at long intervals, the expectoration less abundant, less fœtid, but still separating into layers containing the same elements. A friction sound was now audible over the lower part of the area of dulness.

From this time uninterrupted improvement took place both in the general and local conditions. On Sept. 3rd a note was made that the patient had been up in the ward for four days, the cough was much diminished, and the violent paroxysms had not occurred for a week. The sputum had greatly lessened in

amount, and the fœtor had entirely gone. The physical signs also showed marked improvement; there was still a faint rub, the area of dulness had given place to a much smaller area of deficient resonance along the posterior border of the scapula; the breath-sounds were harsh, but nowhere bronchial; all crepitus had disappeared, and there was only an occasional rhonchus. He was rapidly regaining strength and putting on flesh.

On Sept. 10th still further improvement was noted, and shortly afterwards the patient left the Hospital practically well, with the cough almost gone and expectoration entirely so, and on physical examination only a small patch of deficient resonance and breath-sounds internal to the posterior border of the scapula. It should be added that the intra-tracheal injections were continued during the stay in Hospital after the operation.

H. K., æt. 38, was first seen in February, 1901, with the late Dr. Wilding. He was then suffering from severe cough, coming on in paroxysms, and frequently ending in vomiting, with the expectoration of horribly offensive sputum, amounting in quantity to a pint or 1½ pints in the twenty-four hours. The history of the illness was that until June, 1900, he had always enjoyed good health; but he then became very ill with a bad sore throat, resulting in a peritonsillar abscess on the right side. This was opened, and during evacuation of the abscess some of the discharge, which was exceedingly foul, passed into the trachea, and he felt it trickle down into the right lung. The abscess healed, but three weeks afterwards he began to suffer from violent attacks of cough, with expectoration of offensive matter, often ending in vomiting. If the cough came at meal-times the food was vomited. This first attack lasted three months, and he then had a fortnight's remission, to be followed by a second illness lasting two months. After that he remained more or less free from cough, and was able to resume his work as a clerk for nearly four months. The present illness has lasted three weeks.

In each case the cough came in violent fits lasting 10—15 minutes, frequently ending in vomiting; between these violent paroxysms there was a continual slighter cough, with fœtid expectoration. During the week previous to my visit he had had one paroxysm of cough every twenty-four hours, generally at night, when he coughed up about a pint of horribly offensive sputum. I saw this. It separated into the typical three layers, and had rather the indescribably offensive odour met with in gangrene of the lung than the stale, fœtid odour of bronchiectasis.

The patient had lost nearly a stone in weight, he looked sallow and cachectic, sweated profusely at night, the temperature was occasionally raised in the evening; there were no shivering fits. As under his present conditions he was obviously going downhill, and there could only be one termination

to his illness unless some more effective measures could be taken to arrest the disease, I advised him to come into the Hospital.

On admission the chest was hyper-resonant in front, moved fairly, measured 30" expn. to 32½" insp. The breath-sounds were harsh, and attended with slight rhonchus at inspiration, especially at the right apex. Vocal resonance, a trifle increased. Over the back the signs were the same, except that on the right side there was a patch of dulness beginning above at seventh rib and extending to tenth rib below; transversely it began 3" from the dorsal spines, and extended 3" outwards. It was roughly quadrilateral in shape. Over the upper part of this area the breath-sounds were exaggerated with prolonged expiration; occasionally indistinct soft crepitus and increased vocal resonance. The other thoracic and abdominal organs were normal; the urine contained a trace of albumin.

He was put on a nourishing diet, given creosote in increasing doses, and intra-tracheal injections of creosote, menthol, and olive oil twice daily. With the exception of slight diarrhœa for the first three weeks of his stay in Hospital, he improved remarkably, the cough was very slight, and the sputum, though slightly offensive, was insignificant in quantity. He did not, however, attach much importance to this improvement himself, as he told us that he had had the same experience before, and then, without apparent cause, had relapsed to be as bad as ever.

On March 28th the cough became much worse, the paroxysmal attacks returned, though not so badly as before, and he brought up again a quantity of very offensive, brownish sputum, separating into three layers, and containing red blood-cells, pus-cells, squamous epithelium, fat droplets, but no elastic tissue or tubercle bacilli. There were some long bacilli of uncertain nature. His temperature rose to 100° F. at night, he lost his appetite, felt ill and weak, could not sleep for cough, and for the same reason could not lie down, but was obliged to sit propped up with pillows. He had pains under the right shoulder-blade, and the physical signs at the right base were more definite, the dulness being more decided and the breath-sounds more bronchial in character. There was leucocytosis, the white cells numbering 27,000 to c.m.

Throughout the illness he stated that he felt the intra-tracheal injections trickle down into the right lung to about the same spot where he had felt the pus when the peri-tonsillar abscess was opened, and each injection appeared to reach the same spot.

My view of the case was that some of the pus from the peri-tonsillar abscess had passed down into the lower lobe of the right lung, and had, probably from its containing virulent micro-organisms, caused necrosis of a portion of the lung, possibly going on to formation of an abscess at the termination of the bronchus in which it had lodged, and to this necrosis or

abscess the symptoms were due. Experience of other cases further led me to believe that the pus had passed down that long branch of the main bronchus to the lower lobe that runs in a direction almost directly downwards and slightly backwards for a long distance in the posterior border of the lung, not far from its posterior surface, to terminate almost at the lower border. I therefore asked Mr. Lansdown to see the case with a view to operation. We previously on the cadaver determined the relation of the lower part of this bronchus to the chest-wall, and also found that a needle passed vertically through a spot on the chest-wall corresponding to about the middle of the dull area above described would lead directly to this bronchus; this latter point tended to confirm the view that I had formed as to the position of the disease.

On April 14th Mr. Lansdown therefore resected a portion of the ninth rib in the line of the posterior border of the scapula (arm lying by side). The lung was not felt to move beneath the pleura in this position; but as there were no adhesions, nothing more was done at this time than to stitch the parietal and visceral layers of the pleura together. The next day the patient brought up a quantity of thick, blood-stained, foul-smelling sputum, and during the ensuing week he suffered a good deal from cough and brought up a little sputum. The temperature on three nights rose to 100°. By the end of the week he was better; the wound had been packed with green protective, and remained quite healthy.

On April 23rd a needle was passed in several directions into the lung, but no pus was found; an incision was made into the lung for a depth of one inch, and a drainage-tube inserted. During the next two days he coughed up a good deal of blood-stained offensive expectoration.

On April 27th the dressing was soaked with pus, which had the same offensive smell as the sputum. From this time there was a constant discharge of pus from the lung, which steadily decreased in quantity until, by May 20th, it was very small in amount. Cultures made from the pus showed the presence of staphylococcus aureus and of a bacillus which almost exactly resembled the diphtheria bacillus in morphology and staining properties. The patient now rapidly improved in health and strength, put on flesh, had very little cough, lost his pain in the right side, and the sputum ceased to be offensive and was very small in amount. On May 29th he went to the Convalescent Home. On June 13th he was readmitted into the Hospital, as he was not getting on well. There was very little pus discharged through the drainage-tube, but he was again coughing up a large quantity of frothy, greenish-yellow, blood-stained sputum. The cough was troublesome; he again began to lose appetite and flesh. Temperature normal. Physical signs in chest much the same. No albumin in urine.

On June 19th Mr. Lansdown reopened the wound, and

explored the cavity with his finger. No pus was evacuated, but it was found that the cavity communicated freely with a bronchus. A very large drainage-tube was inserted. The temperature remained normal, and the bad odour and taste disappeared from the sputum, which again diminished in amount, whilst there was free discharge of pus from the wound.

By July 1st the discharge from the wound was much less, he was able to get about and to go outdoors. The cough varied, some days being troublesome, on others less so. He had a good deal of pain in the back.

On July 3rd cultures of the pus from the wound showed the presence of a bacillus exactly resembling the Klebs-Loeffler bacillus, in addition to staphylococcus aureus. Cultures taken on the two following days confirmed presence of this bacillus. It was noticed on dressing the wound that a soft thin fibrinous membrane could be withdrawn from the sinus, and on this account he was given four injections on successive days, each of 4,000 units antitoxin.

It should be stated that he had had no sore throat since his admission into the Hospital. The bacilli, which so closely resembled diphtheria bacilli, were found in pure culture in the thin fibrinous membrane on the edges of the wound; none were found in the sputum. The membranous material was not so tough and thick as the ordinary membrane seen in diphtheria. During all this month (July) he was very ill. His temperature remained normal, the pulse varied from 90—100 and was weak, he lost flesh and strength, the cough was troublesome. On the other hand, the sputum was very small in quantity, and was not offensive.

Towards the end of the month the discharge from the wound had become very slight or had practically ceased; but he was obviously losing in strength, and suffered much from the heat of the weather and from loss of appetite. He was very anxious to go home, and as the wound had by July 26th practically healed, I allowed him to do so, though with considerable misgivings as to his future; for in spite of the improvement with regard to cough, nature and quantity of sputum, he looked as if he would not recover. I had, however, some hope that he might derive benefit from change of air.

I did not see him again, as I went away for my holiday; but he came up to see me at the end of October, and had then quite recovered. He told me the wound healed speedily after leaving the Hospital, he lost all cough and expectoration in 4—6 weeks' time, and had since remained free from them; he looked much stronger, and said he was in very good health. In the chest the only signs were a little deficient movement, resonance, and breath-sounds over the right base.

There are one or two points of interest in this case. One is, Had he true diphtheria, and did he contract diphtheria of

the wound? It is *a priori* difficult to see how he could have done so, as the wound was dressed antiseptically throughout and never left uncovered. Only on one or two occasions was there sufficient discharge of pus to soak through the dressings, and then they were immediately changed. Further, there has not been a case of diphtheria in the ward in which he lay for some years.

In gangrene of the lungs an organism is found which, morphologically, exactly resembles the diphtheria bacillus. Babes[1] mentions this organism as amongst those most frequently found in cases of pulmonary gangrene, and speaks of it as a pseudo-diphtheria bacillus. The absence of neuritis, of any affection of the kidneys or heart, is against infection by the true diphtheria organism, as if such secondary infection had occurred the probability would be that the patient, in his already enfeebled state, would have been especially prone to suffer in one or more of these ways.

However, in view of the presence of this bacillus and the formation of membrane, I thought it advisable to administer a few injections of antitoxin. I may say in passing that the membranes were thin and soft, never tough or fibrous. They were moderately adherent to the raw surface.

Is it possible that the lung was infected from the throat, and that with the increased formation of pus after an opening was made into it the bacillus had an opportunity to grow and develop?

Another point is the indefinite character of the local signs in the lungs, probably in part due to the diseased area never reaching to the surface. The constitutional symptoms were therefore of great importance, and I considered when I saw him first that unless by some means the diseased spot could be more directly attacked the disease would progress more or less quickly to a fatal termination.

[1] *Journ. of Path. u. Bacteriol.*, Bucharest, vol. vi.

SOME CASES OF PTOSIS.

BY

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AT a recent meeting of the Bath and Bristol Branch of the British Medical Association[1] I showed some lantern slides illustrating ptosis, and it has been suggested to me that a short *resumé* of the cases might be of interest to the readers of the *Bristol Medico-Chirurgical Journal.*

The ptosis was symptomatic of ophthalmoplegia externa, and the unusual point was that it came on in middle life in twelve members of one family. Ophthalmoplegia externa is not a disease of everyday occurrence, and it may be useful to outline briefly some of its features. In the first place, in a well-marked case, the external ocular muscles are completely paralysed, and the eyes are as immovably fixed in the orbits as they would be if embedded in cement. Patients with complete ophthalmoplegia externa can neither move their eyes upwards, downwards, inwards nor outwards; but there is no paralysis of the internal muscles. The iris is untouched, and accommodation, irritation, and light reflexes are alike active.

The muscles affected are the recti and the obliqui, the levator palpebræ and the orbicularis. The paralysis of the orbicularis is of interest from the fact that formerly this muscle was supposed to get its nerve supply from the facial. Mendel has shown the probability that it comes, *viâ* the facial, from the third nerve nucleus.

Ophthalmoplegia externa may be congenital, or it may come on late in life. It is sometimes associated with syphilis, with locomotor ataxy, or with general paralysis; but sometimes it is not apparently associated with any other disease. It is

[1] November 27th, 1901.

due to a slow degenerative process in the nuclei, but why this degenerative process should occur we do not know.

One fact is very clear, namely, that the muscles which move the eyes are not necessaries to the modern civilised man. He who has neither recti nor obliqui is at no disadvantage in the up-to-date struggle for life. If any justification for this statement were necessary, I would point to the fact that patients with ophthalmoplegia externa may possibly complain of the ptosis, but otherwise they are not usually aware that there is anything wrong with their ocular muscles. It is hardly more difficult to move the head than it is to move the eyes, and the time involved is inappreciable. For all the ordinary duties of life, he whose field of fixation is no greater than his field of vision is the equal of him who has a normal field of fixation. In a case of this disease which I published in the volume of *Brain* for 1890 the disease had probably existed for thirty or forty years, and the only complaint the patient made was of the ptosis. She could accommodate perfectly, and reading, writing, and sewing were as easy to her as they are to ordinary people.

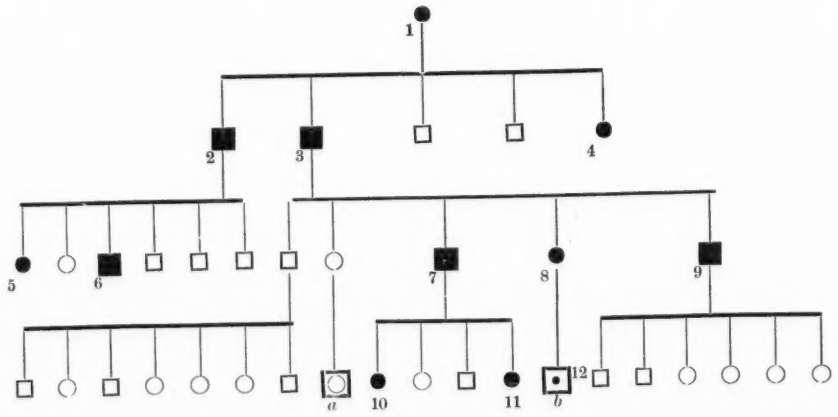
One can well understand in early days that when prehistoric man lived by his muscles, rather than by his wits, rapid movements of the eyes were essential in order for him to avoid his foe or to see his quarry. The anthropoid with the quickest movements would probably survive in the struggle for existence.

In the following series of cases of ophthalmoplegia externa which I have already published[1] the ptosis was well marked; yet, apart from the ptosis, no one of the patients was aware of the disease. In the accompanying chart, reprinted from the Ophthalmological Society's Reports, the male members of the family are represented by squares and the female by circles. The pedigree shows that of the children of the first member affected, as far as is known, three out of five were ophthalmoplegic; in the third generation, five out of eleven; and in the fourth, three out of forty-four. But as the last generation consists mostly of children, and as the abnormality

[1] *U. Kingdom Tr. Ophth. Soc.*, 1900, xx. 258.

Fig. 1.

PEDIGREE.



a. Eleven children, sex unknown.
b. Sixteen children, sex unknown.

does not develop until maturity is reached, it is possible that other members may be affected later on. That the ptosis is a prominent symptom can be seen from the accompanying diagrams.

In Fig. 2, corresponding to No. 3 in the pedigree, the ptosis appears to be so complete that one wonders that he could see at all.

Fig. 3 (Case 7) shows a male member of the third generation after the condition had been relieved to some extent by operation.

Fig. 4 (Case 8) is a sister of the last.

Fig. 5 (Case 9) is a brother of the last two.

Figs. 6, 7, and 8 (Case 9) represent a female member of the fourth generation. Fig. 6 shows the patient at the age of 23, in the year 1884, before the onset of the ophthalmoplegia. Fig. 7 is the same patient six years later, when the ptosis is seen to be beginning; and in Fig. 8, nine years later, the drooping is still more marked. The patient has recently been relieved by a Pagenstecher operation, but I regret that I am unable to show the very satisfactory result.

Fig. 9 represents Case 12. She lives in Australia, and, except the fact told us by the photograph, I know nothing.

The sleepy expression, so characteristic of ptosis, is well exemplified in Figs. 4, 5, and 8. Fig. 10 shows it also. This patient is not a member of the family, but the case is of interest from the fact that although the child frequently "cried," he was never known to shed a tear, and yet there was no evidence of absence of the lachrymal glands. That babies do not shed tears is well known; but that the onset of the faculty should be delayed beyond seven years is, I think, very exceptional.

It is not my intention to enter into the question of treatment here, and I will only mention that in most of the cases requiring operation that of Pagenstecher was selected; but in the latter ones the procedure of Hess was adopted—in all cases with satisfactory results.

Cases of ptosis are sometimes associated with movements of the muscles of the jaw; but they only occur, so far as I

FIG. 2.

FIG. 3.

FIG. 4.

FIG. 5.

FIG. 6.

FIG. 7.

FIG. 8.

FIG. 9.

FIG. 10.

FIG. 11.

MR. BEAUMONT'S CASES OF PTOSIS.

know, in the congenital cases, and never in those in which the ophthalmoplegia develops later in life. They are decidedly rare, and for this reason it may be of interest to refer to a case which I published in the *Lancet*[1] nine years ago.

The child, S. M., was brought to the Bath Eye Infirmary suffering from epicanthus and ptosis. "There was no visible action of the levators, and the upper and lower eyelids were separated from each other by a mere chink, between which the corneæ could scarcely be seen. When the child wished to use his eyes he assumed the usual attitude adopted in such cases — throwing his head back and looking under the immovable upper lids. But what caused even more distress to the parents than the ptosis was the fact that when their child attempted to use his eyes he invariably opened his mouth. The idiotic expression which this produced was very marked." Fig. 11 shows this very well.

DIPLOCOCCAL BRONCHITIS.

BY

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WITHOUT attempting to discuss the general question of bronchitis, or to enter deeply into the pathological anatomy of the various forms of bronchitis, I propose to direct attention to a more or less distinct group of cases of acute bronchitis of considerable interest from a medical standpoint.

Up to a very recent period it has been usual to consider acute and sub-acute bronchitis as an inflammatory or vaso-motor phenomenon, induced either by local irritation, as for instance from the inhalation of irritating substances, or from reflex

[1] 1893, i. 858.

dilatation of the bronchial vessels consequent on a chlll or exposure to cold.

But both exposure to cold and the exposure of the bronchial mucosa to irritating substances by inhalation through the glottis introduce various complicating factors, and one must turn to bronchial asthma or to the paroxysmal bronchitis of infants and young children for the purest examples of vaso-motor bronchitis. Yet it is a remarkable fact that, notwithstanding the recurrent widespread and pronounced bronchial catarrh attendant on paroxysmal asthma, there is, except in old-standing, chronic and complicated cases, but little evidence of those grosser changes which follow acute catarrhal bronchitis. "It is obvious that all diseases, as they fall under the denomination of 'functional,' must proportionately be wanting more or less in those coarser changes in structure that we look for in the study of morbid anatomy; and so it is here. The leading departures are most of them certainly conditioned by, and secondary to asthma of long standing: they are the results of the impaired respiration." (Goodhart[1].)

Contrast with the very pronounced bronchial catarrh of vaso-motor origin,—so acute in its onset and the development of symptoms and physical signs,—the clinical course and morbid anatomy of simple acute bronchitis due to a "chill," arising in young and healthy subjects. It is unnecessary to describe the symptoms, of course; but their gradual development, the general, febrile and gastric disturbances, and the persistence of symptoms for one, two, or three weeks, are strongly suggestive of some infective, inflammatory process, and this is borne out by the widespread pathological changes, with crowding of the smaller lymphatics with leucocytes, enlargement of the bronchial lymphatic glands, etc.

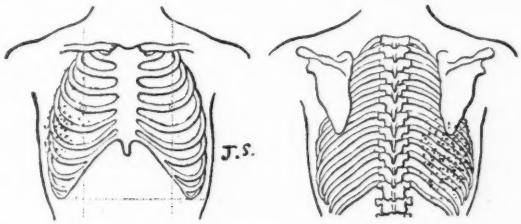
It is not uncommon to meet with such a case as follows:—A child becomes feverish and has a cough; nothing abnormal can be detected in the chest by auscultation or percussion for one, two, or more days, notwithstanding the persistence of the febrile disturbance. Then, often enough not till the general symptoms are subsiding, over a localised area in one lung one

[1] Allbutt's *System of Medicine*, vol. v., 1898, p. 295.

can hear numerous fine râles, sometimes developing evidence of consolidation. Surely it cannot be maintained that this localised bronchitic patch, which may or not pass into lobular pneumonia, and which often does not declare itself till the acuter symptoms and febrile phenomena have subsided, can, *per se*, be the cause of the illness. There is *a priori* reason to believe, rather, that the general disturbance is due to some infective agent, and that the localised lung manifestation is but a consequent lesion of secondary importance. Moreover, the fact that recurrent attacks tend especially to implicate the same area again and again suggests that the infective agent, once it has gained entrance to that area, may lie dormant in the tissues, ready to assert itself when conditions favourable to its renewed activity arise.

Many instances of such localised bronchitis have come under my notice of late, and the frequency with which the sputum is crowded with the diplococcus pneumoniæ or other varieties of diplococci, suggests that these micro-organism are the essential causal factor in a large proportion of such cases. Without entering into wearying details, I would cite the following instances in point:—

CASE.—J. S., boy, aged 16, October 9th, 1901. Symptoms of feverish cold; pain in right side of chest. Temperature rose to 103·2° on the following day. Fine rales, chiefly in right axillary line and the base of the right lower lobe; a few moist sounds heard over whole chest. Pulse, 100; respiration, 24. Fourth day: Temperature fell to 98°, and did not rise again.



Copious expectoration, muco-purulent. A fairly localised patch of fine râles heard over the right base and in the axillary line. Fifth day: The nose bled; expectoration, muco-purulent. The fine crepitant râles heard all over the right lower and middle

lobes, but nowhere else. No absolute dulness. Sixth day: Chest rapidly clearing.

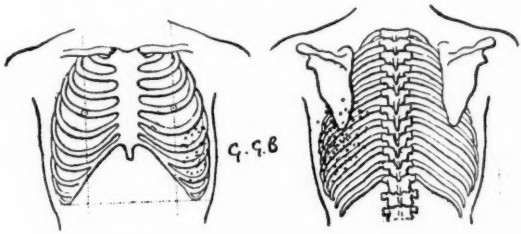
Coverslip preparations of the expectoration yielded numerous pure specimens of large encapsulated diplococci, staining Loeffler's methyl-blue and not decolourised by Gram.

CASE.—F., male, aged 58, March 10th, 1901. Was seen by his medical attendant two days before, who made a diagnosis of influenza. The doctor himself fell a victim to influenza, and I saw the patient. His temperature was 100°. The temperature remained above 100° for two more days, and then rapidly fell to normal. He complained of discomfort in the right side of the chest, towards the base, and here a localised patch of fine râles developed and remained for five days. A few fine moist sounds also appeared at the left base.

The expectoration was examined and gave the following results:—*Methyl-blue.* Diplococci and long thin bacilli equally in very large numbers. No streptococci or staphylococci. The diplococci not decolourised by Gram's method. No influenza bacilli on staining with weak carbol-fuchsin and decolourising.

CASE.—G. G. B., boy, aged 12, February 13th, 1901. Had been ailing a few days, and to-day vomited and complained of headache. Temperature normal. At the base of the left lung there is a localised area of fine crepitant râles on deep inspiration, just below the lower angle of the left scapula. The temperature was slightly febrile for a week, not exceeding 99° F., except on two evenings, when it rose to 101° and 100° respectively. The area over which the fine râles were audible increased till it extended over the whole of the lower half of the left lung posteriorly, and extending as far as the anterior axillary line; but over no other part of the chest was there any abnormal physical sign. The area of moist sounds did not clear up till the expiration of three weeks. Muco-purulent expectoration was fairly free for some days and gradually declined.

Expectoration examined:—Coverslip stained with methylene-blue shows an enormous number of two micro-organisms only, the larger, probably saprophytic, being a polar-stained bacillus; the smaller is the diplococcus pneumoniæ, as it stained well



with methyl-blue and did not decolourise with Gram's method. Proper staining for the influenza bacillus yielded negative results.

CASE.—H. D. S., boy, aged 15½, February 6th, 1901. Has felt poorly one day, with symptoms of slight chill, and this day began to cough. Examination of the chest revealed a localised patch of fine crepitation and sibilant rhonchi immediately below the angle of the left scapula, the rest of the chest yielding no abnormal sounds. Temperature, 100°. From that day onwards the temperature ranged, with occasional exacerbation, between 98° and 99°. The affected area increased in size, but remained localised almost entirely to the left lower lobe, a few fine râles being audible for a day or two at the right base.

Expectoration muco-purulent. After twenty hours' incubation at 37° C. a blood agar slope culture showed numerous dew-like colonies. Staining with carbol-fuchsin showed numerous diplococci. Stained with methyl-blue, numerous diplococci, singly or in pairs, or in short chains; also numerous single cocci. With Gram's method the diplococci were not decolourised. No influenza bacilli could be found. The reporter considered that the diplococci were smaller than diplococcus pneumoniæ.

The patient had a severe and nearly fatal attack of double broncho-pnenmonia in December following.

CASE.—W. B., male, aged 38. Attack of bronchitis, with ordinary febrile symptoms, cough and expectoration. Fine and middle-sized râles were heard all over the chest, but were much more numerous at the right base.

Expectoration: coverslip preparations stained for the influenza bacillus gave negative results; but methyl-blue staining showed great masses of diplococci, in places like a pure culture and all of the size of diploccus pneumoniæ. There were no streptococci or staphylococci.

CASE.—M. B., boy, aged 18, March 28th. Slightly sore throat, chest clear, some cough. Not till five days had elapsed did he develop physical signs in the chest. His temperature, having varied between 99° F. and 100·6° F., became normal that morning, and it remained practically normal or sub-normal. But on April 2nd numerous fine crepitant rales appeared over the lower half of the left lung, below the scapula. This localised area of moist sounds persisted for six days. There was no area of dulness nor other evidence of consolidation. The expectoration was fairly free for two days before the physical signs appeared in the chest, and persisted for several days.

Bacteriological examination of coverslip preparations were remarkably free from micro-organisms; but revealed diplococci (non-capsulated), staining with methyl-blue and gentian violet, and not decolourised by Gram.

Another group of cases seems worthy of note. Last November four College boys in one small house of 13 boys, four cases of acute bronchitis occurred, two commencing on the 21st, one on the 23rd, and one on the 26th. Among the 19 town boys associated with these there were, at the same time, no less than 13 staying out for bronchial affections, so it was said. Now, my four patients did not have "colds in the head," but from the commencement exhibited symptoms of acute bronchitis, with initial temperatures varying between 102·5° and 103·8°. It might be presumed that climatic conditions were accountable for the occurrence of these cases of bronchitis at the same time; but curiously enough throughout the whole of the rest of the school of 364 boarders there was not a single case of bronchitis during that month, and I have on other occasions observed that cases of acute bronchitis tended to arise in small groups of boys in close association.

The bacteriological results of coverslip preparations of the sputa of these cases were as follows :—

C.—Leptothrix buccalis plentiful; streptococci, numerous long and short chains; diplococci, crowds, non-capsulated.

D.—Diplococci, some capsulated.

Sn.—Numerous capsulated diplococci.

Sy.—Crowds of cocci, singly and in groups (staphylococci) also diplococci in crowds, many capsulated, some in short chains.

Stains in all four methyl-blue, and gentian violet decolourised by Gram. The diplococci in all cases not decolourised by Gram.

Bacteriological examinations of many other cases yielded similar results; but I think the group of cases of which I have given brief notes suffice to support my contention that the diplococcus pneumoniæ is the essential causal factor in many cases of acute bronchitis, and that diplococcal bronchitis tends to affect localised areas in one or more lobes of the lungs, and often runs a very benign course. I submit it is probable that without due care and with exposure to cold such cases may develope ordinary acute lobar pneumonia.

Ritchie [1] examined forty-nine cases of bronchitis and found

[1] *J. Path. and Bacteriol.*, 1901, vii., 1.

pathogenic bacteria in considerable numbers in forty-three (the bacteria in the six negative cases having probably lost their vitality by the time the examination of the sputa was made). He concluded that the most important causal bacteria are the diplococcus pneumoniæ and streptococci, while the influenza bacillus appeared to have been the cause of bronchitis apart from epidemic influenza.

It may be argued that acute lobar pneumonia due to the diplococcus pneumoniæ is a disease with fairly well-defined symptoms running a more or less definite course, with high temperature which eventuates in a crisis generally about the eighth day, and that my bronchitic cases with mild symptoms are so widely different in type and course that it is impossible to regard them as due to the same micro-organism. To this I would reply that enteric fever is in its typical clinical course an equally well-defined infectious disease which runs a fairly well-defined course, but that bacteriological investigations have proved that many of the atypical benign cases formerly known as febricula, and the well-recognised ambulatory type, are true enteric. Moreover, there is good reason to expect that a pneumonic infection of the bronchi and bronchioles will differ materially in clinical manifestations from an infective process of the lung proper. Finally, I would point to the numerous instances of abortive or "larval" pneumonia which, though true diplococcal pnenmomia, are transitional forms between diplococcal bronchitis and ordinary typical acute lobar pneumonia.

Netter[1] himself, who so strongly contends for the pneumococcus of Talamon-Frünkel being the specific infecting agent, in 121 *post-mortem* examinations found the primary localisation of the pneumo-coccus in 65.95 per cent. in lobar pneumonia, 15.85 per cent. in broncho-pneumonia and bronchiolitis. The pneumococcus has been very frequently found in the catarrhal or lobular pneumonia of children, and it seems as though there is an essential clinical differentiation between an infection of the bronchi and bronchioles and primary infection of the lung parenchyma by this micro-organism.

[1] Cited by Welsh, *Encyc. Med.*, ix. 424.

In acute specific bronchitis the sputum may be crowded with one particular variety of micro-organism, *e.g.* B. influenzæ, streptococci, diplococci, but a few streptococci or a few diplococci are seldom altogether absent. Nor is it safe to assume that preparations exhibiting only a few of such micro-organisms are necessarily derived from the bronchi, inasmuch as both these micro-organisms are so constantly present in the mouths of healthy individuals.

THE REPUTATION OF THE HOTWELLS (BRISTOL) AS A HEALTH-RESORT.

BY

L. M. GRIFFITHS, M.R.C.S. Eng.

(Continued from p. 26.)

In 1793 Dr. John Nott, practising in Dowry Square,[1] compiled a little treatise for the use of the various visitants at the Hotwells, which reached a third edition after 1802, but he does not "dwell on analytical minutiæ, which are alone interesting to the chymist." Nott devotes a section of his pamphlet to the hot spring which had been newly discovered on Clifton Hill. The water, raised by a fire-engine, proved convenient to the invalids who were beginning to occupy the residences provided for them at the top of the hill.[2] Nott

[1] The *Bristol Directory* of 1799-80 gives his address as 1 Chapel Row, which would be considered part of Dowry Square. It was the house occupied by Elizabeth Trinder in 1754 (see page 15, and *Bristol Directory*, 1809).

[2] Lady Hesketh, cousin of the poet Cowper, wrote, on September 16, 1799, concerning "this most charming place Clifton Hill, which is just now in high beauty; The Woods which Crown these charming Rocks being as green as in June, and the Verdure of the whole country *Intense!* I think you would be greatly charmed and delighted could you see the sweet sublime yet peaceful Views, which I enjoy from every window in the house, for tho the Bristol people have done all in their power to ruin the Rural beauty's of Clifton Hill by the number of abominable Buildings they have erected all over it, yet *Nature* has been so profuse of her bountys in the disposition of the Ground and the happy Combination of wood, water, Rocks, &c. that it is always preferable to any other place." (*Letters of Lady Hesketh to the Rev. John Johnson, LL.D.*, 1901, p. 91). When Lady Hesketh was here in 1796 she found that "the Sweet and pure air of this Enchanting Spot had greatly taken off that constant Hectic fever which had hung upon her so long" (p. 50).

came to the conclusion that the water came from the spring that supplied the old wells. In relation to the present campaign against tuberculosis, it is interesting to learn from Nott that "how far consumption is catching agitates the mind of many a friend attendant on the unfortunate. As I do not consider the matter of suppurated lungs as a specific contagion, so I think it cannot positively be communicated. Whether the air of a room be contaminated with the purulent effluvia of pulmonic ulceration, or of a suppurating sore of any other part of the body, it will be equally injurious to the health of attendants; and as such attendants are most often relatives of the sick, and possibly predisposed by inheritance to the same disease, so they more readily than others may have their lungs affected by the effluvia of matter. Perhaps also matter breathed from the lungs may be more largely and intimately diffused through the air, than if it exhaled from an open ulcer, and was simply absorbed; hence it affects with greater facility. Were the matter of consumption a specific poison *sui generis*, a mortality must frequently prevail amongst our Hotwell nurses."[1] Nott considered that the utility of the Bristol water in phthisis was owing to the fact that "the terrene matter corrects all acidities of the primæ viæ; it absorbs all acrimonious humours of the habit; prevents their accumulation, and erosion of the blood-vessels, so as to create hæmorrhage; in which their native stypticity has also its effect; it involves the saline particles, enabling them to pass through the larger tubes of the body without effect, till they arrive at the smaller canals, where this terrene matter, unable from its grossness to pass, quits them; and the salts then act with their destined efficacy," and that therefore the water "prevents, or even resolves those scrofulous obstructions of the infinitely minute glands of the mucous membrane of the lungs, which possibly constitute tubercles. It corrects the septic matter of their suppurations, and carries it innoxious out of the constitution. It prevents the hæmorrhage, when the sanguiferous system of the lungs is eroded from matter, or when ruptured from an increase of circulation there determined. And lastly it restrains the night sweats, and

[1] *Of the Hotwell Waters, near Bristol*, 1793, pp. 73-4.

mitigates the fever."[1] But both in phthisis and diabetes, wherein it is of approved efficacy, concomitant aids must not be neglected. The general scheme of regimen which Nott laid down as necessary in the treatment will be seen in what he describes as

THE INVALID'S DAY.

> At six in the morning take asses' milk, diluted, or otherwise. Rest about an hour after it in bed; should perspiration ensue, which is frequently the case, rest rather upon the bed, lightly clad. Rise at seven, or earlier. Be at the Wells by half past seven, there take the first glass of water; and, having walked in the open air, if the weather permit, otherwise under the colonade, for twenty or thirty minutes, take the second glass. Ride on horseback, or in a carriage, from eight to nine. Breakfast, and the private avocations of the morning will engage till —Twelve, when a customary medicine is to be taken. At one go to the waters, and drink two glasses in the same way as in the morning. From half past one ride on the downs, or elsewhere, till four. Dinner. Remain quiet after it, or perhaps repose on a couch till six, then repeat the usual medicine. Half hour after six take tea, or such habitual beverage. At seven walk, or, should debility forbid, ride. At eight, or soon after, be returned home. At nine, or soon after, make a light supper, if accustomed to such meal. At eleven take the night medicine, and retire to rest. But this distribution of hours must be varied according to the degree of the disease, and other circumstances. Many invalids cannot rise so early as six, and will wish to be in bed before eleven; neither will they bear the exhibition of the Hotwell water twice in the day.[2]

Nott is very emphatic in his praise of the loveliness of the neighbourhood, and speaks of Ashton as a village which "three miles in length, is one continued bed of strawberries." He bears testimony to the sufficiency of the amusements, but he laments "that the female invalids at the Hotwells, who are for the most part at that period of life when public entertainments have their peculiar relish, err in no one instance so much as in the indulgence of dancing; an exercise most salutary to lungs that are sound, but as injurious to those that are unsound."

Dr. Thomas Beddoes, having given up his chemical lecture-

[1] Pp. 64-5. [2] Third Edition, pp. 94-6.

ship at Oxford, settled in 1793 in Hope Square at the Hotwells, a neighbourhood in which, on account of its reputation with consumptive and other patients, he thought he might have exceptional facilities for putting to a practical test his views on the treatment of disease by the inhalation of "factitious airs." In the early part of that year had appeared his *Observations on the Nature and Cure of Calculus, Sea Scurvy, Consumption, &c.*, in which he had put forth the theory that there is "an excess of oxygene in the system of consumptive persons."[1] He therefore thought that in phthisis, and in many other diseases, the line of treatment should be by inhalation of modified air. In *A Letter to Erasmus Darwin, M.D.*, dated June 30th, he gave details of the treatment he proposed to base upon this theory. Of the three airs—"azotic, hydrogene, carbonic acid"—he was hoping "most from the employment of hydrogene to reduce the air of the atmosphere to a lower standard. It was inhaled through a tube, and in consequence of pressure on the reservoir, a strong current set into the mouth."[2] Beddoes records[3] minutely the results of experiments made on himself with oxygen, and on the strength of them he looked forward to the time when an apparatus for its use would be "ranked among the ordinary articles of household furniture."[4] Darwin, who gave Beddoes much encouragement to persevere with his investigations, took occasion, in his reply, to state his belief that consumption was "infectious to those who sleep with such patients in the last stage of the disease."[5] An important book soon followed; for in 1794 and 1795 were issued the first and second editions of *Considerations on the Medicinal Use, and on the Production of Factitious Airs*, the medical part of which was written by Beddoes, and the rest by James Watt, the great engineer,

[1] P. 114. This new theory, as a writer in the *Monthly Review* for November, 1793, pointed out, owed its origin (mainly through the work of Priestley) to pneumatic chemistry. The reviewer offers for consideration some suggestions which might modify the opinions that Beddoes held in reference to the question of a diminished proportion of oxygen being the effect of pregnancy, and on the influence of pregnancy in suspending the progress of phthisis.

[2] Pp. 44, 46. [3] P. 50. [4] P. 55.

[5] P. 64. Beddoes himself, in opposition to much of the medical opinion of the time, did not believe in its contagiousness. (*Hygëia*, vol. ii,, 1808; Essay vii., pp. 95–8.)

who devised the apparatus[1] used. In this book first appeared the proposal for a Medical Pneumatic Institution "for the benefit of the wealthy as well as of the indigent."[2] In 1795 between £800 and £900 had been subscribed[3] towards the £1,500 which Beddoes considered was the lowest amount that would justify him in beginning the work.

The three springs mentioned by Lucas were not the only candidates for public favour. In addition to the cold bath at Jacob's Wells, there was the spring which was available at the top of the hill. And towards the close of the eighteenth century, but not earlier than 1794, "A Gentleman of the Faculty" issued an undated pamphlet, entitled *An Impartial Inquiry into the Nature and Qualities of the New Saline Mineral Spa Water at the Tennis Court House, Hotwells Road, Bristol.* The house occupied the site of what is now known as Poole's Coal Wharf. The Gentleman of the Faculty proclaimed the virtues of the Spa with no uncertain sound. The spring is described as the "inimitable Chemistry of Nature," "inestimable Saline Chalybeate Water," and "this surprising Mineral Water Spring." It was said that it did "not contain the quantity of salts found in the Cheltenham Waters, consequently more efficacious in many cases, as it is more readily taken up by the absorbent vessels, and carried through the round of circulation, and enters the whole habit, without passing off so rapidly by the intestinal tube, but at the same time acting as an undeniable alterative, though in the mildest manner, even on the most irritable and delicate constitutions."[4] Not only were there the usual facilities for its internal use, but provision was made for its external application, and the Gentleman of the Faculty pointed out "that the Hot-Wells nor even the ancient City of Bristol, have never before had any regular

[1] The book contains many drawings of the apparatus. Some of these are reproduced by Mr. George M. Foy, in an article on "The Discovery of Modern Anæsthesia" in the *Dublin Journal of Medical Science* of December, 1896. Mr. Foy says a great deal about the work at the Hotwells.

[2] Part I., Second Edition, p. 15.*

[3] The names of the donors are given on pp. 111–2 of Part III.

[4] Pp. xii., xiii.

establishment of Baths."[1] But as the popularity of the Hotwells as a pleasure-resort was declining, this Spa had only a short existence. Mr. Latimer records that in 1808 "the spa with its 'pleasant garden bordering on the river' was advertised to be let, and in January, 1810, the premises were converted into the 'Mineral Spa coal wharf.'"[2]

In 1797 Dr. Andrew Carrick issued a *Dissertation on the Bristol Hotwell Water*, in which he recorded his own analysis of it. Part I. of Carrick's work deals at great length with the chemical properties of the water derived from the two springs[3] on the right bank of the river and the Sion Spring, the name given to the one on the higher level, all of which, notwithstanding some striking differences, he considered were derived from the same source. He concluded that "a wine gallon of 231 cubic inches is impregnated with—

Muriated magnesia	$7\frac{1}{4}$ grains.
Muriated soda	4 ,,
Vitriolated soda [sulphate of soda]...	$11\frac{1}{4}$,,
Vitriolated lime [sulphate of lime] ...	$11\frac{3}{4}$,,
Carbonated lime	$13\frac{1}{4}$,,
Making together of solid matter..	$47\frac{3}{4}$ grains
Carbonic acid gas	30 cubic inches
Respirable air	3 ,,
Making together of gaseous fluids	33 cubic inches."[4]

Carrick had no doubt of the general usefulness of the water. He stated that many "Europeans returning from tropical climates would derive much more benefit from the use of this, than any of those mineral waters, in which iron, or any other

[1] Owen (*Op. cit.*, p. 159), describing the "old Hot-well," mentions "the little private baths for one person only at a time, for which they pay one shilling each time, the bath being fresh filled for each person. These are chiefly frequented by those afflicted with different kinds of weaknesses. Many persons also in health often make use of these baths, in order to cleanse and refresh themselves, which they do to admiration.'

[2] *The Annals of Bristol in the Eighteenth Century*, 1893, p. 507.

[3] Carrick changes the names of Old and New to which Lucas devote s attention.

[4] P. 51.

active stimulant is an ingredient, whatever their reputation may be. For more than a century, the Hotwell-water has been celebrated as a remedy for Diabetes, comparatively a rare disease, and one of the most obstinate; and the proportion of cures performed by these waters, is highly creditable to their efficacy. But the disease for which the Hotwells are chiefly resorted to is Pulmonary Consumption. It is above a hundred years since they were first brought into notice for the cure of this disorder; and they have ever since continued to rise in reputation."[1] After giving many details for the guidance of invalids, he concluded with some general "Practical Observations on the Prevention and Treatment of Pulmonary Consumption" intended for the lay public, for whom he narrates its usual clinical course, and affords them information as to the predisposing causes. He combats the opinion held then by some that disease is not hereditary, but admits that consumption is frequently found where no hereditary predisposition can be traced. In many of these cases the origin must be sought in a full diet or strong liquors. Carrick was much vexed with the excess of wine which was common in those days. "In the higher ranks, he who drinks one bottle only, reputes himself a sober man; and he who does not exceed half that quantity daily, is considered as remarkably temperate. It were better, for young men at least so far as health only is concerned, and abstractedly from considerations of morality, to get drunk once a week, and abstain entirely the other six days, than regularly to indulge in what may be called a moderate allowance of Port, or Maderia, or other strong wines, every day. The mother, afraid as it would seem, least her darling child should retain, any portion of vulgar health, carefully initiates him into the mysteries of Bacchus, from the very cradle; and as soon, almost, as little master is capable of swallowing, he is indulged with his regular allowance of wine. No wonder that Gout, Dropsy, Schirrous Liver, &c., should make such a conspicuous figure in the history of his 'life and sufferings.'"[2] Carrick also devotes much consideration to the hygiene of education and dress. He says "From almost continual motion, arises the

[1] Pp. 68-9. [2] Pp. 103-6.

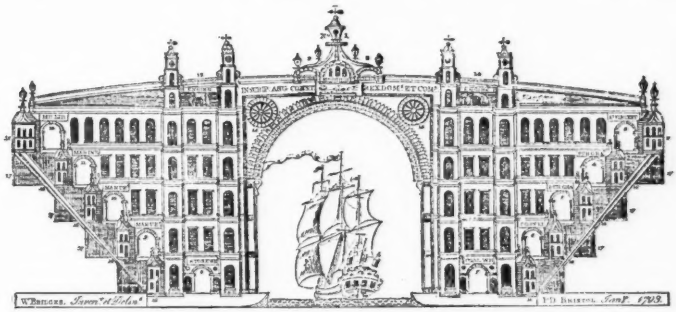
pleasure and the health of childhood: How unnatural then, to send a child of four years of age to be immured in a suffocating school-room, and chained to a bench half the day, merely to be out of harm's way. The quality of the cloathing must likewise possess considerable influence on the health. In modern Europe, a preference is universally given to linen, as an immediate covering for the skin, on account of its superior elegance and cleanliness; but in many respects it is, perhaps, better adapted to the latitude of Egypt, whence it originally came, than the cold regions of the North. Although woollen is less agreeable to the eye, and perhaps less pleasant to the skin, the difficulty with which it suffers either cold or heat to pass, gives it a decided superiority as an article of cloathing, in such a variable climate as ours. Abstractedly from ideas of taste, every thing tight in dress, by compressing the parts and cramping motion, is injurious to health. I have more than once observed a temporary spitting of blood excited by wearing the waistcoat too narrow, or by buttoning the coat over the chest. But the injury to the female sex from the use of long and strait stays *was* much more serious and extensive. The mischievous effects of this absurd and unnatural fashion on the tender frames of young women, could only be equalled by its own innate deformity, and it is to be hoped that long waists will never again disfigure the persons of our fair country women. The loose Grecian dress of the present day is not less conducive to health than to elegance; and although it is not long since the waist has escaped from bondage, a sensible improvement in health and beauty, will, I doubt not, soon be apparent."[1] Among exciting causes of consumption Carrick considered that catarrh was most frequent, and he alludes to the attempts which had been made of "establishing a chemical diagnosis" by early examination of the sputum in all cases ot expectoration. His own experiments in this direction were too capricious for any confidence to be placed in them. By attention to preliminary warnings, and by appropriate precautions, he considered that, in at least nine-tenths of the cases, threatening consumption might be warded off, and he laid it down that in

[1] Pp. 111-3, 115.

the more early stages of the confirmed as well as in the incipient consumptive the greatest dependence should rest on "the antiphlogistic regimen, blisters, setons, and particularly the lancet," and that the objection to bleeding as likely to increase the debility was "founded rather on supposition than actual observation." Much space is devoted by Carrick to the various palliative remedies adapted to the relief of particular symptoms, and the desirability of treatment by many "factitious airs" is explained, and these are recommended if they can be used on a thoroughly scientific basis. Carrick had given a good deal of attention to the infectiousness of phthisis; but he had not given contagion as a cause, "no case having occurred to me, where it could be positively traced; and it has always appeared to me more easy and natural, to account for the supposed cases of infection upon other principles. Where several persons of a family become affected with the disorder, one after another, it is in general only a proof of a common hereditary predisposition; and even where husband and wife successively fall victims to the disease, before a proof of infection can be established, it will be necessary to take into the account the great frequency of predisposition to the disease in this country, together with the hurtful effects of fatigue, watching and confinement, which a person in such circumstances usually undergoes, and which might have been equally injurious, and equally productive of consumption in this person, had the former relative died of dropsy or any other lingering distemper. But the strongest negative proof is afforded by the nurses at the Hotwells, who, were the disease infectious, could not possibly escape; whereas I never knew any one of them affected with it."[1] It will be seen that Carrick's views about the infectiousness of phthisis agreed with those of his neighbour Nott. Carrick was careful to emphasise the warning against the practice of

[1] Pp. 126-7. I have quoted Carrick at some length, because he was destined to play an important part in the medical life of Bristol. In 1834, when he was senior physician at the Infirmary, he was President of the Bristol Meeting of the Provincial Medical and Surgical Association, now the British Medical Association. His address received high praise, and in the second volume of the *Transactions*, in conjunction with Dr. Symonds, he published a contribution on "The Medical Topography of Bristol." Carrick, who lived in Clifton Grove for many years, died in 1837.

sending patients in the last stage of consumption from long distances to the Hotwells. He knew "of one consumptive patient, from Scotland, who expired just as the carriage which brought him reached the door of his lodgings; of another who died the morning after his arrival; of five or six who died within the week; and of several more who did not live to reach the end of their journey."[1] Fatalities of this kind were so many in one set of houses that it received the unenviable title of "Death Row." Notwithstanding the great advantages offered to visitors, Carrick thought that there should be



7.—One suggestion for a bridge from St. Vincent's Rocks to Leigh.[2]

[1] P. 71.

[2] The original print, in addition to a "Ground Plan and Road," has a description of the details of the scheme. Mr. John Tremayne Lane, the City Treasurer, very kindly lent me a copy of the print from which I have taken the following:—

"*Dimensions*—The Great Arch, 220 ft. high, 180 ft. wide; Base, 400 ft. long, 140 ft. wide; Road on Top, 700 ft. long, 50 ft. wide; Each Story 40 ft. high; Gallery, 6 ft. wide.

Contents—No. 1, A Light House. 2, A Toll House. 3, A Chapel, called St. Vincent's. 4, 5, 6, Publick Granaries, and Corn Exchange for Foreign Grain. 7, Coal Wharf and General Market. 8, A Stone Wharf and Water Mill. 9, 10, Manufactories for Cotton, Wool, &c. 11, A Marine School. 12, A Museum, Library, and Subscription Room. 13, 14, Engine Rooms. 15, Vertical Windmills. 16, Twenty Houses in the Scite of the Bridge. 17, Various Recesses for Out Offices, Stabling, &c. 18, Clock Turret and Stair Case. 19, Watch House and Bellfry."

I presume that the raised structures near the Engine Rooms are intended for Clock Turret and Watch House on each side of the river. The numbers 18 and 19 are not in the print.

further improvements. He suggested (1) a public garden near the Mall; (2) a commodious set of baths; (3) more houses under the hill of a proper size for single families; (4) a new road from Clifton to the Hotwells; (5) a bridge over the Avon, as he did not expect ever to see erected the colossal bridge which was to have connected St. Vincent's Rocks. The picture on the previous page shows one design for a "colossal" bridge which was put forth in Carrick's time, and may be that to which he alludes.

(To be continued.)

NOTES ON THE ILLUSTRATIONS. (See also pp. 25, 26.)

3 (Inset). The use of the hay-mow is explained by the following remarks of Owen (*op. cit.*, pp. 161-2): "I would by all means advise those gentlemen who ride on horseback to the Hot-well, as many do, to put up their horses in the stable over-against the beginning of the walk, for which they pay only one penny a time for each horse, and not to tie them up to the rails while they drink the waters. This last is a very common practice; you see a whole range of them together; and the consequence is, that almost every morning one or other of them is obliged, by the backing of coaches or chariots against them, either to break his bridle, or to pull down part of the rails. By this penny-saving scheme of the owner, the horse is greatly frightned, and often receives an injury, while his master is sitting in the Pump-room, or is got to the coffee-house adjoining to it to read the news papers, and knows nothing of the matter. Many a good horse has been hurt by this bad practice, and the company, who are in the walk, are frequently alarmed by it." The building near the hay-mow appears more distinctly as a stable in the first of the illustrations.

(p. 20). "Those whose affairs will not permit them to leave *London*, and whose constitutions require its assistance, have it at five-pence the bottle, if they write to Mr. *Barratt*, the master of the Hot-well, for a hamper of it to come by sea." (Owen, *op. cit.*, p. 132).

5 (p. 21). This view appears on Roque's 1750 and 1759 plans of Bristol. It was from the plate of the later issue, the lettering of which differs slightly from that of the earlier one, that Barrett's view was printed.

7 (p. 151). Many schemes for a high bridge across the Avon were before the public at the end of the eighteenth and the beginning of the nineteenth century. This illustration, bearing on it the date of 1793, represents a suggestion from the designer of the 1768 Bristol Bridge. It comes from *Bristol: Past and Present* (III. 316).

Progress of the Medical Sciences.

MEDICINE.

Diseases of the Stomach.—While it has become possible from improved methods to diagnose many gastric affections with fair certainty, others remain which are recognised with difficulty. **Dyspepsia due to adhesions** is one of these. It is so easy to mistake it for simple dyspepsia from bad food or from hyperchlorydria, for latent ulcer of the stomach, for hysteria and neurasthenia, and for neuralgia. There have been however a number of papers recently on the subject by W. Calwell, Kauffman, Bird, and Hale White, from which important indications may be learnt. The condition may be due to previous ulcers, affections of the bile ducts, syphilis, or injuries. It is essentially chronic. Sometimes the stomach will accommodate itself to the local obstruction and, if care is taken to avoid taxing it with bulky food, it will manage to pass on its load without much pain. Usually indeed, as Bird[1] and W. Calwell[2] point out, there are attacks of pain definitely felt as coming from one spot, varying from a dull ache to an unbearable agony. This pain does not follow at once after a meal, but from thirty minutes to several hours later. The patient is hungry, but afraid to eat, and above all the pains are started or aggravated by movement. On lifting a weight or stretching they become stabbing or shooting in character; but when lying in bed and on a light diet they may almost entirely disappear, and are often lessened by wearing a bandage. Vomiting may follow the onset of the pain, and from this and the fear of eating, emaciation may be considerable. If there is no blood, excess of acid, or mucus in the vomit, and the symptoms have continued for a long while, the probability of adhesions is great, especially if there is a history of gastric ulcer formerly. Mayo Robson and Moynihan[3] say if the stomach be distended with gas the cavity will extend further to the right and higher than normal if adhesions are present. Hale White[4] remarks that above 45 per cent. of ulcers form adhesions to neighbouring organs, and besides the troubles we have considered, they may produce dilatation, with periodical vomiting of long-retained food, coated tongue, and other well-known symptoms. Even without this the adhesions may cause local tenderness and an indefinite fulness where the organs are matted together, compelling us to consider the possibility of a malignant growth. Of course it is also necessary to exclude tabetic crises, neuralgia, gallstone

[1] *Am. J. M. Sc.*, 1901, cxxii. 104. [2] *Dublin J. M. Sc.*, 1901, cxii.
[3] *Diseases of the Stomach and their Surgical Treatment*, 1901, p. 226.
[4] *Lancet*, 1901, ii. 1471.

colic, referred pains from floating kidneys, and other causes. Another occasional result of adhesions is perforation. Thus, in a well-marked case of seven years' duration the patient washed her hair, and the strain from the arms in rubbing her head appears to have torn through the adhesions, causing instantaneous pain with collapse, peritonitis and death in forty hours. The pains of ordinary adhesions may reduce the patient to a wretched helpless invalid, and the question of operation may have to be faced. Sometimes the results are brilliant; but adhesions of the posterior wall are most difficult to reach, and Hale White adds two reasons why a guarded prognosis should be given before operating. One is the possibility of adhesions reforming, and the other is that patients who have suffered pain so long undergo a psychical change which may lead afterwards to the development of pains in the old spot which may be hysterical or neuralgic in nature.

A special form of adhesion is sometimes seen with a small hernia in the linea alba. The dragging pains commencing after a fall or strain, increased by exertion and disappearing with rest in bed in otherwise healthy people, are most characteristic, and the small gland-like protrusion in the middle line, no larger perhaps than a hemp seed, is not easily forgotten when once felt. Like other herniæ, it may be reducible or incarcerated; but small as it is, the effect on the stomach is as serious as many of the adhesions due to old ulcers.

* * * * *

Syphilitic affections of Stomach.—Another group of stomach affections rarely recognised is that due to syphilis. Soltau Fenwick[1] divides them into gummata, endarteritis, and chronic inflammation of the mucous membrane. Besides the irregular ulcers due to gummata, others are the result of syphilitic endarteritis, which are difficult to distinguish clinically from so-called simple ulcers, though much less common. He estimates indeed that not more than 5 per cent. of all cases of gastric ulcer are connected with syphilis. However it is important to recognise them, for they are most resistant to the ordinary remedies for ulcer. Among other peculiarities it should be noted that they generally occur in males from twenty-five to forty years of age who are markedly anæmic and emaciated. The pain is especially severe, and is worse at night. Vomiting too is excessive, but hemorrhage is rare. They yield quickly to mercury and iodides, but are apt to relapse. Simon Flexner[2] collected some fifteen cases of syphilis of the stomach, five of which were of the inherited form and nine of the acquired. From cancer the diagnosis is difficult; but hæmatemesis and the presence of a tumour would be most likely due to cancer. Specific treatment too in a few days actually increases the pain of cancer, while its beneficial

[1] *Lancet*, 1901, ii. 835. [2] *Am. J. M. Sc.*, 1898, cxvi. 424.

results are quickly shown in syphilitic ulcer. The gastric crises of tabes may need to be distinguished; but they occur at irregular intervals and do not follow the ingestion of food, and the patients have usually other symptoms of the disease. Such crises have also been noticed in rheumatoid arthritis.

* * * * *

Pneumococcal and **streptococcal gastritis** are not unknown. The former may be accompanied with a fibrinous exudation over the stomach walls, petechiæ on the skin, and a septicæmic state, and true duodenal and gastric ulcers occasionally occur in pneumonia, which are probably of toxic origin since pneumococci have not been found in them. Three cases of the latter have been recently reported by W. Cayley,[1] O. A. Schultze,[2] and L. A. Conner,[3] under the name of phlegmonous gastritis. There may be rigors, vomiting, violent pain, sometimes dilatation of the stomach, and vomiting of pus. The streptococci are found in the submucosa and muscular coats, and quantities of infiltrating pus are formed.

Ulcers are occasionally produced by the **diphtheria bacillus**, as in a case recorded by W. R. Stokes,[4] where the lesion was situated on the lowest part of the greater curvature towards the pylorus, and the mucous coat and part of the submucosa was destroyed. Usually the stomach is able to destroy the bacilli; but when its secretory power is weakened true diphtheria of the stomach may occur, of which instances have been noticed by Schoedel and others.

* * * * *

Ulcer of the œsophagus is another little-recognised affection which is important, as the hemorrhage may lead to an erroneous diagnosis of pulmonary disease or of true gastric ulcer. Varicose ulcers indeed in cirrhosis of the liver, with their profuse sudden venous hemorrhage, are well known, and need not detain us except to remark on the danger of giving drugs which raise the blood pressure in such cases. M. I. Knapp[5] believes that simple ulcers are very common, and that the pain of œsophagitis felt between the shoulder blades and behind the sternum is too often dismissed by the mystic and euphonious phrase, "a reflex pain." An important symptom of ulcer is spasm of the œsophagus when a soft tube is passed. This spasmodic contraction may be sufficient to stop the passage of a tube entirely, and may be caused either by an active ulcer or by the cicatrix of a newly-healed one. Too often such a condition is put down to hysteria, and indeed the difficulty may be due to want of dexterity in the operator. The hemorrhages may occur at intervals for years, and the blood is bright red in colour if it is ejected at once. The writer refers to at least one patient who

[1] *Lancet*, 1902, i. 227. [2] *Med. Rec.*, 1901, lx. 877. [3] *Ibid.*
[4] *Johns Hopkins Hosp. Bull.*, 1901, xii. 209.
[5] *Med. Rec.*, 1902, lxi. 334.

had been under treatment for supposed phthisis, but had merely ulcer of the œsophagus, with an excess of organic acids and various micro-organisms flourishing in the stomach contents. In this case too the temporary spasmodic stricture on passing the stomach tube was well marked. The ulcers seem often to occur in alcoholic patients; and even if the patient has phthisis, ulcer of the œsophagus may be occasionally the cause of a hemorrhage. On the other hand it is of course most important not to mistake a pulmonary hemorrhage for one from the œsophagus.

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Acute dilatation of the stomach was the subject of an interesting debate at the Royal Medical and Chirurgical Society, and of several later papers. Campbell Thompson[1] collected forty-nine cases, some of which occurred after surgical operations, injuries, or indiscretions of diet, while others accompanied various diseases; but in seven no predisposing cause could be found. There is usually a sudden onset, violent and copious vomiting, perhaps with remissions, collapse, abdominal pain and tenderness, distension of the gastric region with splashing sounds and fluctuation, but rarely if ever visible peristalsis. The dilatation and the great secretion of fluid in the stomach do not always occur together, and the former is, he thinks, due primarily to a nerve paralysis, though the increased secretion may increase dilatation when it has once commenced. There is clearly no pyloric obstruction, for nothing of the kind is found *post-mortem*, and a variable portion of the duodenum is also dilated. Nor is the existence of vomiting against paralysis and in favour of obstruction, for physiologists have shown that vomiting can take place when the stomach is replaced by a bladder, provided the cardiac orifice is open and the abdominal muscles and diaphragm are intact. Albrecht[2] and Ewart[3] think there is obstruction at the junction of the duodenum and jejunum from constriction by the superior mesenteric arteries, following displacement of the intestines towards the pelvis; but it appears that considerable force is required to cause constriction, and moreover the intestines are not found to be displaced in all cases, and the point where the dilatation ends is variable. Thus it is much more probable that paralysis is the primary cause of the dilatation, and Box and Wallace[4] show that the stomach contents are then prevented from flowing downwards by the pressure of the organ on the duodenum where it crosses the vertebral column. This can be demonstrated on the cadaver even after the bowel has been cut through anywhere to the left of the spine. Hence they recommend that the patient should be placed in the prone position, or at least on the right side. In fact, as Ewart says, if there is any fear of an attack, we

[1] *Acute Dilatation of Stomach*, 1902.
[2] *Arch. f. path. Anat.* [etc.], 1899, clvi. 285.
[3] *Lancet*, 1901, ii. 1228, 1449. [4] *Ibid.*, 1259.

have another reason for not allowing the patient to remain always on his back. When acute dilatation has taken place food should be given by the rectum, the fluid in the stomach should be drawn off by a tube, and hypodermics of strychnine freely administered. If the quantity of fluid lost from the organism by the secretion into the stomach is very great, saline injections per rectum are desirable. Ewart suggests the knee and elbow position if the patient is not too ill; but the affection is rapidly fatal in most cases, though it is probable that mild cases are often unnoticed.

Tetany in chronic dilatation has been variously ascribed to dehydration of the tissues, to an excess of H.Cl., or to a peptotoxin. Halliburton and McKendrick[1] have succeeded in partially isolating the poison. It causes a great fall of blood pressure and slows the heart when injected into animals. It has a marked acid reaction, and is soluble in alcohol or in saline solutions. Cassaed[2] obtained two extractives, one of which produced coma and the other caused convulsions. He inclines to the view that we have to do with a substance which has been partially peptonised and then absorbed.

G. PARKER.

SURGERY.

In an important paper by Christian Fenger[3] on **Tuberculosis of the Peritoneum,** the author points out the fallacy of concluding that because patients recover in large numbers after laparotomy for this disease, that therefore the operation is the cause of their recovery. He refers to the work of Borchgrevink in connection with the subject,[4] and quotes the conclusion of the writer as follows: "Serous tuberculous peritonitis is a territory which surgery must hand back to the internal medicine clinic, with thanks for the splendid opportunity which a misunderstanding gave to the profession, by means of laparotomy, to study tuberculosis in one of the large cavities of the body."

Borchgrevink has observed twenty-two cases treated by laparotomy and seventeen treated without. He finds the presence of pyrexia adds greatly to the gravity of the case, for out of the twenty-two cases with pyrexia operated on no less than eight died; whereas of those without pyrexia operated on (ten) only one died. Out of the seventeen cases treated without laparotomy fourteen recovered, and of the three cases that died only one died simply from the advance of the tuberculous peritonitis; for one died of intestinal obstruction and another from measles. Borchgrevink's statistics also show that although the fluid returns more frequently after simple puncture than after laparotomy, yet after a time the recurrent collection of fluid is

[1] *Lancet*, 1901, i. 174. [2] *Brit. M. J.*, Epit., 1901, i. 73.
[3] *Ann. Surg.*, 1901, xxxiv. 771.
[4] *Bibliotheca Medica;* Abtheilung, E.; Chirurgie, Kocher, König and Mikulicz. Heft iv., 1901; quoted by Fenger.

absorbed in most of the cases treated by simple puncture. I believe myself that if it is necessary to evacuate the ascitic fluid in this disease, a small incision is safer than puncture, because the intestine is so liable to be adherent to the anterior abdominal wall, and its presence there may not be made known by resonance. I, however, entirely agree with the author that tuberculous peritonitis is frequently recovered from, and that a great number of cases published as cured by laparotomy would have recovered without. I have frequently seen cases of tuberculous peritonitis with a view to operation, and advised against it, and the patient has recovered. With regard to the method by which laparotomy cures, or is supposed to cure, tuberculous peritonitis, the author refers to the conclusion of Herzfeld,[1] who says, "there is nothing left but to confess that we still stand before an enigma which for the time being cannot be cleared up." Probably there is no enigma to be solved, because the laparotomy has not cured the tuberculous peritonitis; the patient would have recovered without it.

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The much discussed question as to whether, when an **appendicitis abscess** is opened, the diseased appendix should be removed has recently been brought prominently before surgeons, by a paper by Mr. Battle[2] advocating its removal either when the abscess is opened, or after convalescence; and one by Mr. Gilbert Barling[3] showing how rarely trouble follows if the appendix is not removed. Mr. Battle records seven cases to show what trouble may follow if the appendix is left. In three of these one or more abscesses formed after the first had healed, in two there were recurrent attacks with suppuration, in one a sinus, and in another a fæcal fistula persisted. But he does not tell us in how many of his cases in which the appendix was not removed, no trouble subsequently arose. Mr. Barling, on the other hand, records forty-seven cases (all traced) of appendix abscess in which the appendix was not removed, and of these cases only one had recurrent trouble. The report of Mr. Barling's paper, however, does not inform us whether any of his cases had persistent sinus after operation, though they did not get recurrent attacks. In the discussion that ensued on Mr. Barling's paper,[4] Mr. Wallace stated that hospital (? St. Thomas') statistics for six years showed about 5 per cent. of recurrent suppuration after drainage of the appendix abscess without removal of the appendix. Mr. Barker expressed an opinion that the appendix should either be removed at the time the abscess is opened or after convalescence. I have had a sinus persist for some time after the abscess has been opened in some of my cases. In one case I have

[1] *Mitth. a. d. Grenzgebeiten d. Med. u. Chir.*, 1900, Bd. v., Heft ii., 1884; quoted by Fenger.

[2] *Lancet*, 1902, i. 143.

[3] *Brit. M. J.*, 1902, i. 455.

[4] *Loc. cit.*, 456.

had to remove the appendix many weeks after the abscess was drained, in order to stop the persistent suppuration, and in another such persistent suppuration proved fatal as the patient refused further operation. I believe I am correct in saying that I have only had one case of recurrent abscess[1] (I have not time at present to look through my records), but in another case the patient had one or two recurrent non-suppurative attacks after the drainage of the abscess; and in one case peritonitis followed the healing of a sinus after the drainage of an appendicitis abscess, from recurrent mischief in the appendix. My own opinion is that it is a very risky thing to break down the adhesions amongst the coils of intestines which form the walls of the abscess, in order to remove the appendix, for in this way we may infect the general peritoneal cavity; and the proportion of cases in which trouble remains (persistent suppuration) or follows the drainage of the abscess (recurrent attacks) is too small to warrant us in incurring the risk, or in performing a second operation to remove the appendix after recovery.

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In this *Journal* in 1897 I referred to the treatment of paralytic club-foot by **tendon grafting.** In 1898 Mr. Eve published a report of cases treated by this method,[2] and more recently Mr. Tubby and Mr. Sinclair White have done the same.[3] Dr. Fritz Lange has also published a recent paper on the subject.[4] The method consists in transplanting the tendon of an active muscle on to the tendon of a paralysed muscle. For instance, the tibial muscle may be paralysed, and the other muscles of the foot and leg may escape. The active muscles will produce deformity by overaction, as they will not be opposed by the paralytic muscle. Hence a paralytic valgus may be produced. The tendon of the extensor proprius hallucis may be divided, and also the tendon of the paralysed tibialis, and the proximal end of the extensor tendon securely sutured to the distal portion of the tibialis anticus tendon. Various tendons have been transplanted in this way. Sometimes a strip has been taken from the side of the tendo-achillis and attached to some paralysed muscle. The result has generally been good. If the tendon or tendons transplanted are functionally allied to the tendon of the paralysed muscle to which they are attached, the return of voluntary power to perform the movements of the paralysed muscle may be anticipated. If the transplanted muscle is one of an antagonistic group, a reflex contraction on walking may be expected, and this will tend to hold the foot in an improved position. Moreover, the loss of power in the overacting group of muscles due to the transplantation of one or more of them will diminish the

[1] The case of persistent fatal suppuration.
[2] *Brit. M. J.*, 1898, ii. 1139. [3] *Ibid.*, 1901, ii. 585, *et seq.*
[4] *München. med. Wchnschr.*, 1902, xlix. 10.

tendency to deformity. If the tendons on one side of the foot have to be attached to those on the other, it is not necessary to carry a long incision over the foot. A short incision can be made over the tendon or tendons on each side, and they can be carried across the foot by tunnelling under the tissues by means of a pair of sinus forceps or a pair of blunt-pointed scissors.

Lange[1] has shown that in cases in which the transplanted tendon is not long enough to reach to the place to which we wish to attach it, it may be joined by a silk suture, carried on from the tendon and acting as a prolongation of it. If the tendon of the paralysed muscle is much atrophied, the author thinks it may stretch and become useless, and prefers to attach the tendon of the active muscle by a silk cord to the periosteum at the insertion of the paralysed tendon. He draws attention to the risk to the vitality of the tendon of tension in the union, and advises the use of a silk suture as a prolongation of the tendon in cases in which the tendon itself can only be attached in a condition of tension. Lange has employed this method in fifty-six cases, with good results in nearly all. The silk tendons were rendered aseptic with great care, and never produced any suppuration. It is a most interesting fact that in one case the author found that after a time new fibrous tissue formed around the silk cord, which appeared as bluish-white, tough, fibrous cord, of the size of a large lead-pencil. There was around it a layer of loose and movable connective tissue, but a true tendon sheath had not formed.

C. A. MORTON.

OBSTETRICS.

No complication can be met with in practice which will give rise to more anxiety than the **co-existence of carcinoma of the cervix uteri with pregnancy.**

In such a case the practitioner is confronted with a problem, the solution of which is of great difficulty and which demands the most careful consideration.

The complication of carcinoma uteri with parturition—*i.e.*, the case in which the presence of the growth is not known until labour has set in—is comparatively simple: a living or, at any rate, viable child is in the uterus, and the point for decision is, whether it is possible to deliver *per vias naturales* without destroying the child, or, if it is decided that this is impossible, is it preferable to deliver by Cæsarean section? If it is decided to deliver *per vias naturales*, it must be borne in mind that even after craniotomy this is a proceeding involving grave risk to the mother from the great likelihood of dangerous laceration occurring during delivery; while no further step can be taken towards relieving the condition of the mother without another severe operation. Should the condition be one in which cure of the mother by operation is out of the question from

[1] *Loc. cit.*

infiltration of the maternal tissues, the child's life is sacrificed without adding either to her comfort or safety. Should the condition be one in which hysterectomy is admissible, delivery by Cæsarean section will not add greatly to the risk and will allow of the simultaneous removal of the affected uterus. Again, in the inoperable case, Cæsarean section will render the child's survival more probable, while the mother's life, already probably only a short one, will not be shortened materially should she survive the operation.

In pregnancy the decision to be arrived at is whether to interrupt pregnancy and then operate on the growth or simultaneously to operate on the growth and terminate pregnancy by removing the gravid uterus either entire or after evacuating it of its contents.

Cumston[1] shows that of 60 cases collected by Chantreuil 25 died or 41 per cent., of 75 collected by West 41 died or 54 per cent. Herman gives the mortality of a series collected by him as 30 per cent., and Cohnstein as 57 per cent. This indicates the danger to the mother. The infantile mortality is also over 50 per cent. The diagnosis has to be viewed from the point of view of, first, the existence of a malignant growth in the cervix of a pregnant woman, and secondly, the existence of early pregnancy in a case of carcinoma. The difficulty in the first place is due to the fact that many of the symptoms of carcinoma are met with in, and may be attributed to, pregnancy; this is especially liable to occur in cases where a malignant growth has occurred shortly after impregnation.

The growth may also be mistaken for the fœtal parts, and induration of a fibrous or cicatricial nature may be mistaken for malignant disease and Cæsarean section unnecessarily undertaken.

Premature labour, either induced or spontaneous, is unfavourable for the child. Herman gives the mortality of the child in cases of premature labour as over 40 per cent. and at term as over 20 per cent.; other observers give a much higher mortality rate for children born at term.

As regards Cæsarean section, out of 40 cases (collected by Bar, Sänger, Leopold, and Cumston) 36 children were born alive, but two died some time after birth.

Cæsarean section is favourable to the survival of the child, but the chances of the mother surviving appear to be remote. In the author's opinion Cæsarean section should be discarded unless it can be immediately followed by a total vaginal or abdominal hysterectomy, and that where this is out of the question a Porro's extirpation is justifiable, in spite of its danger, if the growth has invaded the peri-uterine tissues.

In the consideration of cases in which pregnancy is of less than six months duration, the difficulty seems to be in the choice of operation.

[1] *Am. J. Obst.*, 1902, xlv. 1.

The treatment may consist (1) in the induction of abortion or miscarriage, followed after an interval by the radical removal of the uterus and growth. (2) The removal of the growth by curette. (3) The removal of the growth by amputation of the cervix, either intra- or supra-vaginal. (4) The removal of the uterus entire without evacuation; or (5) its evacuation and removal at the same sitting.

Curetting is useless. Amputation of the cervix in the majority of cases is succeeded by miscarriage; a number of cases recover, but only to sink later from recurrence.

Cumston considers that in the first four months total vaginal hysterectomy is the operation of choice; after this, when the uterus is too large to be removed by this route, vaginal hysterectomy may be done after evacuation, or abdominal total hysterectomy. The author has collected 34 cases of vaginal hysterectomy performed between the second and seventh months of gestation without a single death; while Theilhaber and Bachmann have collected 28 others also without a death. This operation then seems one from which good results may be expected.

Vaginal hysterectomy after evacuation gives good results. Theilhaber has collected 17 cases without a death: the danger appears to be in lacerations of the diseased cervix occurring; involution should not be waited for, as it allows of increase of the growth.

Winter, in 1897, finding himself unable to extract entire a pregnant uterus, divided the posterior wall and thus extracted the fœtus and placenta, after which the uterus was easily removed. As regards the removal by the abdominal route, the mortality of the collected cases appears to reach 30 per cent.

Cumston's views as to the means to be adopted are as follows:—As long as there is any chance of cure, the mother's life alone, and if the case is inoperable the interests of the child alone, should be considered, even though its life may be uncertain.

After the sixth month the author is apparently rather in favour of total abdominal hysterectomy, or the operation of delivering *per vaginam* through the incised posterior uterine wall.

Carstens[1] reports a case in which he performed vaginal hysterectomy for carcinoma in the case of a woman four and a half months pregnant with obliteration of the cervix, the result of a previous operation. As the cervix, or rather its remaining portion, was quite impervious and the evacuation of the uterus as a preliminary was not possible, he pushed a pair of scissors through the spot where he considered the cervical canal to be and opened up the canal; through the opening he extracted the fœtus and placenta. Severe hemorrhage occurred, which was easily checked. In tearing open the cervix the *cul de sac* was opened. The operation was completed in the ordinary way,

[1] *Ibid.*, 74.

clamps being used, and the uterus delivered by means of a myoma screw.

He quotes eleven cases in which vaginal hysterectomy was performed after either spontaneous or artificial evacuation of the ovum at intervals varying from eight to thirty days after the evacuation; one death occurred.

He also quotes 32 cases in which the operation was performed without interrupting pregnancy, of these three died.

It is shown that pregnancy exercises an unfavourable influence on carcinoma, rendering its growth more rapid. On the other hand, the growth usually becomes more active after delivery than before. The mortality is enormous. Whether treated by incision of the cervix, forceps, scissors, or Cæsarean section, about 50 per cent. of the mothers are lost either at the time or as an immediate consequence of labour.

The author concludes that to allow the continuation of pregnancy in a woman affected with carcinoma is to condemn her to an early death.

Sanderson[1] reports a case of a four and a half months' pregnancy complicated with epithelioma of the cervix. He operated by a combined vaginal and abdominal section, and removed the uterus entire with the fœtus *in situ*. The patient made a good recovery.

He lays down the following propositions: (1) Where pregnancy and operable cancer coexist the life of the mother is alone to be considered. (2) That before the fourth month of pregnancy vaginal hysterectomy is the proper treatment. (3) That after this period the alternatives are (*a*) induction of labour, followed by vaginal hysterectomy, or (*b*) hysterectomy by the combined method.

O'Callaghan and Dardenne[2] report a case in which a hard cauliflower-like growth was detected on both lips of the cervix in a woman, aged 36, who had been married 17 years and never pregnant. Hysterectomy was inadmissible, and therefore as much of the growth and cervix as was possible was removed by the knife and cautery. Eight months later she was examined and found to be about five months pregnant, and rather less than two months later labour commenced and the whole of the lower segment of the uterus was found to be a cancerous mass. Delivery being impossible, Cæsarean section was performed, the child delivered, and the uterus removed through the abdominal incision, a procedure which proved to be one of the greatest difficulty. The patient never rallied, and died from shock within 48 hours.

In such a case as O'Callaghan and Dardenne's there is no alternative to Cæsarean section, but it seems a debateable point whether the removal of the uterus was justifiable in his case. One reason in its favour is the difficulty of drainage through the obstructed lower segment, and secondly, the difficulty of pre-

[1] *Brit. M. J.*, 1901, ii. 1738. [2] *Lancet*, 1902, i. 660.

venting infection of the placental site. One would have supposed that the removal of the uterus by Porro's operation would have obviated these difficulties and saved the necessary difficult dissection through infected tissues. It would appear that the lines of procedure should be as follows:—

A. In cases in which the cancer is operable: (1) In the first half of pregnancy, vaginal hysterectomy, either without or after emptying the uterus. (2) In the latter half, or rather with a viable fœtus, Cæsarean section, followed immediately by pan-hysterectomy or removal of the cervix *per vaginam*, delivery and removal of the uterus by either route as may seem best.

B. In inoperable cases: (1) In early pregnancy, induced abortion after partial removal of the growth. (2) With a viable fœtus, Cæsarean section or Porro's operation.

WALTER C. SWAYNE.

Reviews of Books.

Encyclopædia Medica. Under the general editorship of CHALMERS WATSON, M.B. Vols. IV.—IX.: *Foot*—*Pregnancy*. Edinburgh: William Green & Sons. 1900–1901.

These volumes, each containing between five and six hundred pages, are a continuation of those formerly reviewed (*vide* vols. xvii. and xviii.). Some thirty to forty principal articles are to be found in each volume, and these, written by authorities on the respective subjects, are important monographs. In a comprehensive work like this there must of necessity be some inequality, but for the most part the editor has successfully avoided this difficulty. Other encyclopædias devoted to medicine, surgery, and gynæcology respectively contain fuller details; but, for their size, the present volumes contain more information than other works of a similar class.

It is difficult to select individual articles for comment, but that on gout, written by the editor (vol. iv.), cannot fail to be full of interest and instruction to the reader. It extends over nearly fifty pages, and gives considerable detail on the dietetic questions associated therewith. He has little belief in drug treatment: that is surprising, for we have always found that an attack of acute gout is more amenable to drugs than many other inflammations, and salicylates are nearly as valuable as in the allied rheumatic arthritis. He gives a caution as to the use of colchicum; but why such reiterated cautions as to the use of this drug should be needful we have always been at a loss to

understand. There does not seem to be any mention of a class of drugs which do appear to increase the elimination of uric acid and urates; such drugs as piperazine and urosine (quinate of lithia) seem likely to be of much service.

Mr. D'Arcy Power treats of fractures; Mr. Mayo Robson, in conjunction with Dr. Macrae, deals with the gall-bladder and bile ducts; and to Mr. Moynihan is assigned the subject of hernia. All these are dealt with in the thorough manner which we should expect from their distinguished authors. We should, however, like to enter a protest against the statement that "there can be no question" that Bassini's operation for hernia is "incomparably the most successful in results," for there are many moderate cases of rupture which are far better treated by the less severe operation of Kocher.

A very noteworthy article is that on invalid feeding (vol. v.), written by Mrs. Chalmers Watson, M.D., who remarks that every practitioner should possess some knowledge of cookery. It is pointed out that the effect of different degrees of heat on albumin is the keynote to all the various culinary methods, which are variations of one another depending on whether the meat juices are to be retained or extracted. The cooking of vegetables is commonly considered to be mere detail; but as the nutritive value and digestibility of vegetable foods depend largely on their careful preparation, a short account of the best methods of preparing many of them is here given. The article contains a large number of formulæ for the cooking of delicacies for the invalid and the aged: the diabetic receives special attention, and a series of *menus* for six days gives a very large variety of attractive dishes.

The subject of general insanity receives (vol. v.) consideration under four headings — etiology, pathology, nature and symptoms, and treatment,— these sections being furnished respectively by Drs. Urquhart, Ford Robertson, G. R. Wilson, and Mercier. It is difficult to conceive work better done, within the allotted space, than that by these authors, each of whom has successfully achieved condensation without detriment to easy reading or suppression of important matter. In Dr. Robertson's article the practitioner will find an astonishingly comprehensive and up-to-date summary of the special pathology of mental disease, which he may well trouble himself to thoroughly digest. The section on the nature and symptoms of insanity is excellent, and equally displays powers of observation, originality and clearness in expression. Although we have not yet met with writing on this subject more readily intelligible to the general medical reader, there is much in Dr. Wilson's contribution that will repay careful perusal by those making a special study of insanity. The section on general and special treatment contains a short and clear *resumé* of the means for effecting the control of an insane person under various circumstances and the principles which should guide the practitioner in

advising as to the necessity of enforced segregation, the methods of control and their proper application, the conditions calling for special treatment, and the details of this both therapeutic and otherwise. All these matters are dealt with in a most able and convincing manner by the author; this by no means lengthy chapter indeed contains an immense amount of valuable information.

An article on life insurance (vol. vi.), by Dr. William Elder, gives a very complete but condensed account of the duties of the medical examiner and the problems which he is called upon to endeavour to solve. These problems are often incapable of solution, and it is the duty of the examiner to give the applicant the benefit of any doubt that may be, unless he has good reason to consider the risk more than should be accepted by any office for which he may be employed. The risks of life are obviously incapable of absolute prediction, and the examiner can only report as to the impression made upon himself by the applicant; but a review of such an article as this leads to the conclusion that medical men should not think lightly of their duties as medical referees to insurance offices, whose commercial prosperity is very closely related to the accuracy and good faith of their medical examiners.

The subject of labour is most comprehensively dealt with in a series of able articles by several authors.

The articles on diseases of the larynx and nose (vols. vi. and viii.) are the work of various authors, the chief contributions being those on "Inflammatory Diseases," by St. Clair Thomson and Tilley; "Chronic Infective Diseases," by McBride; "Malignant Neoplasms," by Sir Felix Semon; "Post-Nasal Growths," by Macdonald; "Neuroses of the Larynx and Nose," by Watson Williams; and "Diseases of the Accessory Nasal Sinuses," by Logan Turner; while examination of the larynx and nose are dealt with by M. Hunt and Cresswell Baber respectively. If we must single out any one contribution for special note it would be that by Sir Felix Semon, for his article is a masterly exposition of the diagnosis and the methods of radical extirpation of the disease in suitable cases, which have been placed in such a satisfactory position mainly by the investigations and good work of this distinguished author. Dr. John Thomson's contributions on congenital laryngeal stridor and laryngismus stridulus are valuable and sound, drawing clear distinctions between these two affections.

Several articles on diseases of the lungs (vol. vii.) are written by Dr. R. W. Philip, of Edinburgh. In phthisis he rightly claims that the therapeutic measures necessary to what he calls "a physiological life" are most conveniently carried out in a sanatorium, and he adds that, having regard to the appalling frequency of the disease, there is room for much larger provision of such sanatoria, and more especially for the poorer classes, including persons in receipt of limited incomes which cease in case of

illness. He states that mere change to a better climate is commonly insufficient, and he is in accord with other authorities in his belief that the special curative influence frequently attributed to certain climates cannot be maintained. We are gratified to see that the writer does not ruthlessly sweep away all drugs in the management of tuberculous lungs.

The article on epidemic cerebro-spinal meningitis is by Dr. William Osler, of Baltimore, whose *resumê* of the disease contains a good account of two important aids in diagnosis which have been brought forward of late years—Kernig's sign and lumbar puncture, both of which are of the greatest possible assistance both in the establishment of the malady and its differentiation from allied conditions. One of these is pneumococcic meningitis, inasmuch as the pneumococcus can usually be readily differentiated from the diplococcus intracellularis. The author is inclined to the belief that the lumbar puncture may have some little therapeutic action apart from its diagnostic value.

Mr. H. J. Stiles deals with diseases of the mammary gland in a clear and comprehensive manner. The researches of this observer on the lymphatic supply of the breast have been helpful in placing the modern operation for carcinoma of the mamma on a scientific basis, though Mitchell Banks long before advocated similar methods on clinical grounds. We should like therefore to have seen that Mr. Banks received due credit for his work in this department of surgery amongst the other honourable names mentioned in the text.

Mrs. Garrett Anderson, M.D., writes on neurasthenia (vol. viii.) a very interesting account of a very difficult subject, and as regards diagnosis she shrewdly gives the following advice (p. 333):—"Having found no objective evidence of organic disease, listen to the patient's story, asking no suggestive questions. If a neurasthenic patient is encouraged to narrate his experiences and symptoms, there will, as a rule, be ample evidence against organic disease. No system disease one knows of ever had half the variety of symptoms and the variation of conditions described by the neurasthenic."

One of the most important series of articles is that on paralysis, written by Drs. Risien Russell, Frederick Batten, and James S. Collier (vol. ix.). It extends to one hundred pages, on the system-lesions of the cord and other diseases of the grey and white matter. A very complete chapter on parasites by Dr. W. J. Ritchie, of Edinburgh, follows.

The articles on diseases of the ovaries, by Alban Doran, and diseases of the pancreas, by Mayo Robson, contain much valuable information. The pancreas has only lately come under the hands of the surgeon, and those who are unfamiliar with the brilliant results which have been achieved in cases of chronic pancreatitis would be greatly enlightened by reading Mr. Robson's remarks on this subject.

Enough has been said of the work as a whole to show that it amply fulfils all that we expected of it when dealing with the earlier volumes. The three remaining volumes will complete the series of a reliable, succinct and commendable encyclopædia.

The Commonwealth of Cells. By H. G. F. SPURRELL. Pp. xi., 115. London: Baillière, Tindall & Cox. 1901.

We are often asked to recommend a small book on physiology that gives a simple and readable outline, and which can be understood by those who have had no training in the sciences. This book will answer the purpose admirably.

As the title indicates, the author keeps before us throughout the book the cellular structure of the various tissues of the body, with the result that a more uniform and connected survey is obtained than if he had followed the more usual text-book methods. There is here no need to wade through pages of "dry-as-dust" details of formulæ, theories and facts that are only of value to the student.

The book is not free from error, and the illustrations and text are at times too clumsy to be lucid; but we hope that a further edition will be called for, as the book is thoroughly well worth re-writing.

Diseases of the Anus and Rectum. By D. H. GOODSALL and W. E. MILES. Part I. Pp. 311. Longmans, Green, and Co. 1900.

This is an excellent book based upon the work and mode of practice of the authors. The illustrations are numerous and the photographic reproductions good. The anatomy of this important region is well described. The method of defining the anal region by quadrants is to be commended, and we observe that the authors prefer to use the left forefinger for examinations. Operation for tuberculous fistula is favourably spoken of. The method of arrest of hemorrhage after pile operations, by the insertion of a tube with packing around, is said to have never failed. The claim of the writers to a recent modification of Salmon's operation (p. 292) is unjustifiable; for it has been in use for the last fifteen years, and probably for a much longer time.

The Accessory Sinuses of the Nose. By A. LOGAN TURNER, M.D. Pp. xiv., 211. Edinburgh: William Green & Sons. 1901.

In the earlier chapters the author discusses somewhat fully and with great clearness the anatomy of the various accessory nasal cavities. Then follows an extremely interesting chapter on the comparative anatomy of the frontal sinuses in human crania. This section of the work is practically the subject

matter of a lecture formerly delivered by Dr. Turner to the Royal College of Surgeons, and his later prize essay on "The Racial Characteristics of the Frontal Sinuses." The following chapter of twenty-six pages deals with transillumination of the cavities. The pathology and diagnosis of suppuration in the cavities each occupy a chapter; finally treatment is discussed in thirty-four pages.

The language throughout is clear, the illustrations copious and most admirably selected and executed, and the work as a whole will be found of great practical value. But while the earlier chapters are rather too full and detailed for students, and will appeal mainly to the rhinologist, the portions dealing with diagnosis and treatment are adapted for the student and practitioner, but are too elementary for the specialist. Thus there is a distinct want of proportion in the work, in our opinion the one and only serious fault to find with it.

William Hunter. By R. HINGSTON FOX. Pp. viii., 75. London: H. K. Lewis. 1901.—We have read this short story of the life of William Hunter, anatomist, physician, and obstetrician, with much pleasure. The author's literary style, which is scholarly and elegant, as well as the subject matter, make the book a most readable one. In addition to the account of the life and work of William Hunter, interesting notices are given of the lives of Cullen, Smellie, Fothergill, and Baillie, all friends of Hunter, and portraits of Hunter and of these famous contemporaries are introduced. It is apparently impossible to discover how much of the credit for the discovery of the mode of circulation of the maternal and fœtal blood in the placenta should be attributed to William and how much to John Hunter. Much of the work which led to the discovery was done by the two brothers in conjunction, and later each claimed the chief credit. The crowning work of William Hunter was, however, his demonstration of the "Anatomy of the Human Gravid Uterus," culminating in the publication of the book bearing that title. The author quotes Matthews Duncan's statement that this "immortal work is one of the stable foundations of the science and art of midwifery and cannot fail, in all future ages, to be as valuable and useful as it now is."

On the Cure of the Morphia Habit without Suffering (Physiological Demorphinisation). By OSCAR JENNINGS, M.D. Second Edition. Pp. xii., 211. London: Baillière, Tindall and Cox. 1901.—For more than ten years the author of this book, having first of all cured himself of this distressing condition, has been the means of curing many others, and has been quite the recognised authority thereon. The means of treatment advocated are: heart tonics, bicarbonate of soda, and hot-air baths—a therapeutic triad, together with the special mode of

reduction of doses by means of rectal injections. Numerous interesting cases are recorded, and these show the way in which the details of treatment may be carried on in spite of many difficulties.

Surgical Applied Anatomy. By Sir FREDERICK TREVES, K.C.V.O., C.B. New [Fourth] Edition. Revised by the Author, with the assistance of ARTHUR KEITH, M.D. Pp. xii., 571. London: Cassell and Company, Limited. 1891.—This popular work has reached its twenty-fourth thousand, and is now so well known by students and practitioners as to need no recommendation from us. It is full of useful information given in a pleasant form. It is modelled somewhat after the style of Hilton's *Rest and Pain*, which it resembles in presenting a number of important anatomical details illustrated with interesting surgical embellishments. We know of no other book on surgical anatomy which is so eminently readable as this.

A Text-book of Embryology. By J. C. HEISLER, M.D. Pp. 405. Philadelphia and London: W. B. Saunders. 1899.—This treatise gives a fairly full account of the development of man, illustrated by the usual figures. The feature which distinguishes it is an elaborate table showing the size of the embryo and the state of development of the various organs at various ages. It is a most useful compilation and deserves to be widely known.

The Essentials of Practical Bacteriology. By H. J. CURTIS, M.D. Pp. xvi., 291. London: Longmans, Green and Co. 1900.—This work is eminently suited for a laboratory text-book for students of bacteriology, and we know of no other which so fully serves this purpose. The directions with regard to technique are clear and concise, and the particular study of each organism is considered in a separate lesson. Tables are supplied in the appendix, which will prove of great service to the beginner in helping to differentiate between the commoner varieties of organisms. The subjects of cancer and ringworm are considered at some length, and the more recent work in connection with these two diseases is given in detail.

Principles of Surgery. By N. SENN, M.D., LL.D. Third Edition. Pp. xiv., 699. Philadelphia and Chicago: F. A. Davis Company. 1901.—A thorough revision of this valuable work has been made, and in its present form it ranks in the forefront of scientific surgery. Amongst the new matter is a welcome chapter on blastomycetic dermatitis—a comparatively new disease which has hitherto been mistaken for one of the phases of tuberculosis. In reading the clear and didactic statements of the author, one is tempted to wish that such solid principles, founded on fact and experiment, could be substituted for some of the ephemeral details of treatment with which the modern student is too laboriously crammed. We can heartily

recommend the book to those who desire an original, scientific, and intelligible exposition of the principles of surgery.

When to Operate in Appendicitis. By C. MANSELL MOULLIN, M.D. Second Edition. Pp. 39. London: John Bale, Sons, and Danielsson, Ltd. 1901.—These clinical lectures—for such they are—were originally published in the *Clinical Journal*. The author, like our American *confrères*, appears to favour operation in acute inflammations which are not showing any sign of improvement in twelve or twenty-four hours. To him the "question is a very simple one," and he asks—equally simply—which of the two offers the best prospect for the patient, an early operation or "leaving things to chance"? He has apparently forgotten the middle course of bringing an intelligent watchfulness to bear on the progress of the case when we decide not to operate within twenty-four hours! The book is, however, lucidly written, and should certainly be in the hands of all practitioners who have been in the habit of "leaving things to chance."

Tumours, Innocent and Malignant. By J. BLAND-SUTTON. New Edition. Pp. 566. Cassell and Company, Limited. 1901.—The former edition ranks as a classic; and the present edition, with its additions and corrections, is not altered in character from the previous issue. The whole work is eminently scientific, original, and concise, and bears witness on every page to the painstaking efforts of the author, who has endeavoured to put the classification of tumours on an intelligible basis. The whole treatment of tumours is tersely summed up in the preface as consisting in their removal, wherever this is practicable at the earliest possible moment; but it is surely an anachronism to suggest that in the treatment of cancer of the breast "many surgeons" are in the habit of "rudely pulling out the axillary lymph-glands one by one" (p. 275). The book should be possessed by all who are interested in the evolution of tumours.

Tumours of the Urinary Bladder. By E. HURRY FENWICK. Pp. viii., 115. London: J. & A. Churchill. 1901.—We think the author might have presented the results of his experience in a more readable form and with more method in arrangement than here given, and might have added an index in place of the list of cases of which "the scant details do not, I regret to say, convey any knowledge to the reader." The rules of technique are worth repeating: (1) Always cystoscope, never sound for symptomless hæmaturia; (2) A gentle rectal examination should be the first step in the inquiry; (3) Dark hæmaturias without clots rarely need any preparatory washing out for clear cystoscopy—a diuretic often suffices; (4) Always cystoscope and operate, if necessary, at the same sitting if the bladder has to be washed out. The author calls attention to some of the

difficulties and to the dangers of cystoscopy, which should be fully understood before anyone attempts the procedure. His classification of bladder tumours into (*a*) the benign papilloma, (*b*) the papillomatous carcinoma, and (*c*) the bald carcinoma, is borne out in the tables to be a clinically convenient one. We note that Mr. Fenwick no longer uses syphon-drainage after his supra-pubic operations. Many useful hints will be found throughout the book.

Gonorrhœal Arthritis: its Pathology, Symptoms, and Treatment. By L. VERNON JONES, M.D. Pp. 52. London: H. K. Lewis. 1901.—The account of gonorrhœal arthritis given in this little book is not much fuller than that in most of the ordinary text-books of medicine and surgery. Only the second half of the book deals strictly with arthritis. In the first half the bacteriology of gonorrhœa and the phenomena of inflammation in general are considered. For the support of the inflamed joints the author greatly prefers leather splints to any others. No mention is made of the possibility of increasing the after-stiffness in the joints by keeping splints applied for too long a time; the cautions given are all against leaving off the splints too soon. We think the hot-air and electric bath treatment deserved mention. The book, though it contains nothing original or new, may be of use to practitioners who have not access to the larger works on medicine and surgery, though we think that all practitioners should consider it a duty to get access to good medical literature.

Tubercular Disease of the Hip-Joint. By J. GRANT ANDREW, M.B. Pp. 69. Glasgow: Alex. MacDougall. 1901.—This is a reprint of a paper read before the Glasgow Medico-Chirurgical Society in favour of the establishment, for Glasgow, of a similar special hospital to the Alexandra institution for London. It is a valuable statistical record to show that only long hospital treatment (five months on the average at the Alexandra), with prolonged observation afterwards, can give to the poor the same results as can be obtained for the rich. In general hospitals, from various reasons—largely the demand upon the beds—time-saving excision becomes a necessity. In private, and under special hospital conditions, Nature can be left to eliminate the diseased focus if adequate time be allowed. It is the prolonged rest in the early stage that is so important and so difficult to provide for in a general hospital.

Transactions of the American Surgical Association. Vol. xviii. Edited by DE FOREST WILLARD, M.D., Ph.D. Philadelphia: William J. Dornan. 1900.—We have grown accustomed to regard this volume as one of the most important of the yearly contributions to surgical literature, and the present one serves to confirm that view. It contains the papers read before the Association at the meeting held in May, 1900.

More than half the book is taken up with a series of articles on gastric surgery, written by various leading American surgeons, and these articles are of such excellence that no one interested in that field of surgery can afford to miss reading them. The remaining articles in the book on sundry other surgical topics are of almost equal merit.

Syphilis and other Venereal Diseases. By H. DE MÉRIC. Pp. vii., 132. London: Baillière, Tindall and Cox. 1901.—The writer explains why he has thought it well to exclude the moral or religious side of the question in writing this book. We hardly think such an explanation needful, for surely such topics would be entirely out of place in any medical book. The book contains a short account of venereal diseases, in which the author's own experience is freely given, and it is written in an interesting way. His experience seems to have been chiefly gained in the French hospital to which he is surgeon. The work can hardly be considered a standard one for reference. We fear the method of puncturing an inflamed testicle in the out-patient room, although it may give temporary relief, may, without thorough antiseptic precautions, lead to suppuration in the testicle, and no mention is made of such precautions.

Studies from the Department of Pathology of the College of Physicians and Surgeons, Columbia University, N.Y. Vol. VII. For the Collegiate Year, 1899—1900. Reprints.—This volume contains many valuable papers. One on the antitoxin treatment of tetanus, by Dr. Moschcowitz, is very comprehensive. He has collected and abstracted no fewer than 338 cases: 196 recovered, 142 died, a mortality of 42.01 per cent.; but, as the editor remarks in a footnote, this must not be taken as a reliable estimate of the mortality of cases treated by antitoxin, since more successful than unsuccessful cases are reported. As a comment upon this, it is worthy of note that all the recorded cases of tetanus treated in Italy with Tizzoni's antitoxin recovered. Another interesting paper is upon poisonous snakes and snake-bite, by Gustav Langmann. A statement as to the fatality of the bite of the European viper is somewhat surprising. In Loire Inférieure sixty-two deaths are said to have occurred in six years from the bite of the common viper. The value of antivenine as a remedy is discussed, and in spite of contradictory reports it is considered that it possesses some curative power; but the opportunities for using it successfully are of necessity rare. A point of interest, bearing perhaps not only upon the treatment of snake-bite but suggestive as to the value of drugs in general medicine, is the statement that cholesterin extracted from biliary calculi and from carrots, and tyrosin separated from the bulb of the dahlia and from mushrooms, appear to have the power of immunizing against viper venom. It is also mentioned that in America the Indians have used a plant, miscania gaucho, with reputed success in the treatment of snake-bite.

There are other valuable papers, amongst which may be mentioned traumatic hemorrhages into the spinal cord, by Dr. Pearce Bailey. Hemorrhage into the spinal canal is spoken of as rare, and hemorrhages into the spinal cord as more common than is generally supposed. Such hemorrhages are usually focal, but in rare instances may be disseminated. The grey matter of the cervical region is the usual seat of a focal hemorrhage. It follows that paralysis of one or of both arms commonly occurs, and with this may be associated loss of sensation to temperature and pain. If the hemorrhage be large, the legs may also suffer. The prognosis is not necessarily bad. Should the hemorrhage have been sufficient to destroy cells of the anterior horns, wasting of the hands or arms will follow, but the paralysis in the legs generally disappears.

A Text-book of Practical Obstetrics. By EGBERT H. GRANDIN, M.D., with the collaboration of GEORGE W. JARMAN, M.D. Third Edition. Pp. xv., 511. Philadelphia: F. A. Davis Company. 1900.—This work is quite properly described by its title; it is a very thorough and reliable guide to the methods of dealing practically with the various situations which arise in midwifery. We can especially commend the section on the pathology of pregnancy, which deals with the subject in great detail. We note with surprise, however, that the authors do not call the attention of the reader, when dealing with the nephritis of pregnancy, to the importance of not only testing for urea—by which, we presume, they mean its volumetric estimation—but also of keeping a daily record of the amount excreted as well as the percentage found, since this affords a most important guide to the condition of the excretory power of the kidneys. We note with appreciation the advice of the authors as to saline transfusion, and also their remarks as to the various methods of its application and their respective value. There can be no doubt in the minds of any who have made use of the methods described, that their failure is in most cases due to the fact that they have not been pushed by frequent repetition. In dealing with puerperal sepsis, the authors indicate very clearly, in our opinion, the correct attitude towards the extirpation of the pelvic organs for the relief of septic fever: this operation one would expect to be rarely justifiable. The book is heavily illustrated, most of the plates being taken from photographs. We must confess that in many cases we fail to see the advantage of the plates from a practical point of view; occasionally we come across one which, being a photograph, shows up some fault in technique, *e.g.*, a gentleman with aseptic hands is engaged in a manipulation and wearing a ring!! One plate, showing the application of the binder, rather indicates the apparatus being loose where it should be tight, and *vice versa*. Many of the plates, especially photographs of internal manipulations with the internal hand necessarily omitted, appear to us quite superfluous: we fail to see what

knowledge can be gained from them. Taking the work as a whole we consider it a sound and sensible exposition of the essential points in the treatment of either a normal or complicated case.

The Journal of Obstetrics and Gynæcology of the British Empire. Vol. I., No. I. January, 1902. Edited by ALBAN H. G. DORAN. London: Baillière, Tindall and Cox.—The aim of the promoters of this new journal, as declared in the preface of this its first number, is to make it "a complete and impartial record of British work, an exponent of British obstetrical and gynæcological practice, and a summary of contemporary thought and achievement in obstetrics and gynæcology throughout the world." With these high aims we are naturally in entire sympathy. We like the title of the journal. The cover bears a long list of obstetricians and gynæcologists, all British in the wider sense, who have agreed to help in the work of the journal. Issued under the control of such a large number of distinguished specialists, its success seems assured. The specimen copy to hand begins well. The first eighty-eight pages contain five original articles and one so-called critical essay. The five original papers, though interesting, are not of extraordinary merit, and we found the essay more instructive than any of them. Thirty-two pages are devoted to abstracts from current literature, and the abstracts have been very well written. Finally, nine pages are given to reviews of books and reports of societies. We should like to see the table of contents not split into two parts on separate pages, and not preceded by and mixed up with advertisements, which tend to obscure it. We think, also, that it would be a distinct advantage to have each abstract from current literature individually noticed in the table of contents in some such way as they are in the German *Centralblatts*, or even more systematically than in these. The binding, too, leaves something to be desired. Our own copy showed signs of disintegration before we had finished reading it. We hope the day will come when this journal will be known far and wide, in the empire and abroad, as one of the very highest order. We venture to hope that its success may be such that the physicians and the surgeons of the Empire will follow the example of the obstetricians and gynæcologists, and combine together to issue two more journals of the British Empire, devoted respectively to medical and surgical science, and that the journal under review, or the hypothetical three, may serve to encourage and stimulate the profession throughout the land to make greater efforts for the advancement of the medical sciences, and that aided by these publications Greater Britain may in the end deserve and gain fame as great in the medical field as she has already done in other spheres of labour.

Editorial Notes.

Edward Long Fox Memorial.—Many of our subscribers will be glad to have an opportunity of showing their regard for our late friend and colleague, Edward Long Fox, by contributing towards this desirable object. At a meeting of friends recently held in the Chapter Room of the Bristol Cathedral, the Right Hon. Lewis Fry, P.C., took the chair. He regretted that the Dean was prevented from being present as he had intended. It was resolved that the form of the memorial should be—(1) a brass tablet to be placed in the Cathedral; (2) the establishment of an Annnal Lecture on some subject connected with medical science, to be known as the Long Fox Lecture, to be delivered at the University College; (3) that any further available funds be devoted to the assistance of a student who would become a medical missionary. Donations may be sent to the Treasurer, the Rt. Hon. Lewis Fry, Esq., P.C., Bristol Old Bank, Clifton, or to either of the Hon. Secretaries, W. W. Asquith, Esq., 34 College Road, and Dr. Markham Skerritt, Edgecombe Villa, Clifton.

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The Crusade against Tuberculosis goes on slowly. The National Association continues to grow in activity and influence, and there is a general awakening in the country as to the need for the provision of sanatoria for the poor. "There are still many cities and towns in Great Britain where the municipal authorities pass by on the other side, and leave the poor consumptive to the casual Samaritan—or to death in a ditch." (*Practitioner*, April, 1902, p. 375). For these Professor Osler has recently addressed the municipality of Baltimore, and he adds: "If you can get the people to awake, it dosen't make any difference if the mayor and city council are asleep." Here, in Bristol, and in the neighbouring city of Bath the reverse is the case; the councils are fully alive to the necessity for decided action, but the active philanthropy of the public has not yet risen to the occasion.

The Bath Council voted £500 on the building being completed and £120 annually for the maintenance of two beds. At a meeting of the Bristol Health Committee it was resolved: "That on completion of the building and equipment of the proposed sanatorium for consumptives at Winsley, the sum of £1000 be voted to the Gloucester, Somerset, and Wilts branch of the National Association for the Prevention of Consumption and other forms of Tuberculosis, and the sum of £260 be paid annually for the exclusive use of four beds for Bristol cases, provided (1) that one of the trustees in whom the sanatorium is to be vested be a member of the Town Council of Bristol; (2) that four members of the Council be on the Executive Committee." This recommendation has now been adopted and passed by the Town Council.

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The **discussion on Plague**, opened by Dr. Edward Klein, at the meeting of the Bristol Medico-Chirurgical Society, will have directed attention to a subject of which we in this country know little, and do not commonly give ourselves the trouble to learn. When we realise what this disease is in India, it becomes obvious that such apathy is almost criminal. The importance of the plague question, looking alone at the mortality in India, is enormous. In the week ending March 1st there were 21,789 deaths, in the previous week there were 14,946, whereas in the corresponding week of 1901 the number was only 6,991. In Bombay city alone 750 died of plague in one week (*British Medical Journal*, March 29th, 1902, p. 786). It is a disease worth keeping out.

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Nursing Experiences on the "Hospital Ships" at Dartford.—The following thrilling and pathetic account of some nursing experiences of small-pox are from the pen of a former sister at the Royal Infirmary, Bristol. It tends to show that it is worth while to prevent such a disease as is depicted, and should do something towards the suppression of the anti-vaccination faddist. The more widely such knowledge is disseminated the

more eager will these persons be to give themselves and the world that protection which vaccination alone can give.

"Thrice in 24 hours patients are brought from London by steamer, and, weather being favourable, two hours at most should see them on board. Fog disarranges everything, the steamers can neither leave the wharf nor the ship, and the consequent accumulation of patients first on the wharf and then on the ship is very trying. All clothes are removed at the wharf, disinfected, and returned to their owners when leaving Gore Farm. The patients are wrapped in warm flannels and blankets for the outer journey, and are accompanied by a nursing staff; they are carried to the wards on stretchers or in chairs by a small army of porters, and the resident medical officer at once examines and classifies the scars, rash, &c. . . . On the ships the patients are on feather beds (at "the Extension" and different new buildings I hear a specially prepared wool mattress is being tried). Bad cases cannot stand having their beds made, so are lifted on to fresh clean ones, and with some this is necessary several times during the day or night. Faces are so disfigured and change so rapidly that it is not always easy to identify them. We have an unlimited supply of feather pillows, sheets, handkerchiefs, &c., and patients always look absolutely clean. Eyes, mouths, and throats are done every four hours or more frequently: the tongues and throats of confluent cases are ulcerated and in a dreadful condition: the hœmorrhagic ones are almost hopeless to deal with, as the bleeding is increased by the gentlest touch. Bed sores have to be looked for, as they come quickly and slough deeply. Spirit cannot be used and powder cannot be rubbed on as preventatives, but the parts are dusted from large tins with perforated lids. I don't think I have seen one bed sore heal. Every patient is blanket washed twice in twenty-four hours, using plenty of soap, and not rubbing but soaking the skin and carefully drying. This gives great relief, and diminishes the small-pox smell. Cold is carefully guarded against; a sleeveless flannel shirt is first put on, over this a thick cotton one, both open down the back. . . . The temperatures are not often over 103°, the average is about 100°. To give sufficient nourishment is a great part of small-pox nursing, and until death is imminent—or the patient imagines he is being poisoned—is not difficult. Thirst is great, and many pints of milk are easily disposed of. . . . Brandy is the only stimulant I have been ordered to give, in small quantities and often; two or three teaspoonfuls every two hours as a rule. . . . For the faces every sort of treatment has been tried. In the early days of the epidemic a mask of Whitehead's varnish was the correct thing, but proved disappointing. Ointment masks and fomentations are popular; but nothing seems to prevent scarring. . . . The soles of the feet are often very painful, and are fomented; the snipping of the blisters there and on the limbs I cannot describe: some patients are in fomentations from head to foot.

Delirium is the worst part of small-pox nursing; it comes on so suddenly, and sometimes when least expected; at your first round you may attend to the face of a civil and pleasant man, and at your next visit to him you find yourself looking into the eyes of a madman who is inviting you to come with him through the window and find a resting place in the river. . . . Suicide is the one idea, and their whole mind is bent on it, and as they are extremely cunning and rapid in their movements, men and women alike are a dreadful responsibility. A month ago one of these maniacal cases escaped through a small window in the roof and drowned himself in the river.

The appearance of the delirious cases is peculiar; frequently one arm is raised and trembling, and the index finger appears to be pointing at something high up. . . . The hœmorrhagic cases are the saddest; from the first they are considered hopeless, although they do not always look bad on admission. They are conscious to the end, and their death is terrible. In other hœmorrhagic cases there is a small red rash, the face swells past recognition and becomes almost black; these suffer much from the mouth and throat. . . . In having charge of the ward for delirious patients I may consider myself fortunate, as it enabled me to nurse small-pox in its worst and

most malignant forms. . . . An hour spent in that particular ward would, I am sure, have cleared up every doubt as to the blessings of vaccination. . . . Nothing seemed to make them sleep or quiet them—opium, bromide, trional, paraldehyde, were all no good. Very large hypodermics of morphia answered, but the risk of collapse had to be considered. . . . I shall always associate with the ships the tramp, tramp, of the stretcher bearers carrying the dead from the wards; it went on all night; it got on the nerves, especially when a patient buried his head in your apron and implored you not to let them come for him next.

At any hour of the night the Roman Catholic priest from Dartford would appear silently at my side—and having attended to some dying man—as silently depart; but, out of the tail of my eye I have seen him give drinks, shake pillows, and leave comfort in many ways behind him.

Some, who have not tried it, think there is little nursing possible in small-pox, but I cannot agree with them . . . And when one poor dying thing took my hands in his and felt and rubbed them for a time, and saying "Like mother's hands," bent and kissed them, my time here did not seem altogether wasted. . . . The complete wipe out of families is astonishing; it is a common thing to have the husband, wife and many children here. . . . One nurse only has taken small-pox here. . . ."

Notes on New Drugs and Preparations for the Sick.

Tabloids. — BURROUGHS, WELLCOME, & Co., London. — 1. **Tabloid Hydrarg. Perchlor. et Potass. Iodid. Hydrarg. Perchlor.**, gr. $\frac{1}{16}$; **Potass. Iodid.**, grs. v.—Cases frequently occur in which the continued administration of mercury with iodide of potassium is essential. Mixtures, owing to their inconvenience and bulk, are unsuitable in many instances, and patients neglect to take doses regularly. The compactness of the "Tabloid" products permits a supply to be carried in the waistcoat pocket, and enables the treatment to be continued with regularity, and without being irksome to the patient. The drugs employed in the manufacture of the "Tabloid" products are of the highest quality, and the dose of gr. $\frac{1}{16}$ of mercury perchloride is equivalent to one drachm of the Liquor Hydrargyri Perchloridi.

2. **Tabloid Aspirin**, grs. v.—Aspirin is an acetyl salicylic acid, and is held to possess advantages over salicylic acid, and the salicylates, especially in the treatment of conditions associated with rheumatism. From grs. v. to grs. xv. are recommended for a dose, which should be repeated at short intervals.

We have been rather disappointed in this drug. Like the salicylates, it must be given in full doses; and when so given it produces very similar effects, both good and bad. It is difficult to differentiate between the action of the two, if given in similar doses.

3. **Tabloid Ophthalmic Atropine Sulphate**, gr. $\frac{1}{600}$.—"Tabloid" Ophthalmic Products possess obvious advantages over other

methods of ophthalmic medication. They are designed to avoid the objections attendant upon the use of stock solutions which are apt to decompose. Being immediately soluble upon the conjunctiva and of high therapeutic efficiency, "Tabloid" Ophthalmic Atropine Sulphate will be found of great service.

4. **Soloid Nitro-propiol,** gr. ¼.—Nitro-propiol is of special value for confirming the presence of glucose in urine, when indicated by other reagents, such as Fehling's solution, inasmuch as the reaction is not influenced by uric acid, creatinine, glucuronic acid, bile colouring, or by bodies which may be contained in the urine after the administration of certain drugs.

To apply the test, mix 10 minims of the suspected urine with ʒiij. (10 c.c.) of water. Then add one "Soloid" Nitro-propiol and boil. If glucose be present the liquid will assume a blue colour, owing to the formation of indigo blue. This colour may appear quickly, but usually only after boiling for about three to five minutes.

The "Soloid" product renders the application of this test a simple matter, which will often be found useful.

Enule Rectal Suppositories. Morphine Hydrochloride, gr. ¼; **Extract of Belladonna,** gr. ½.—"Enule" Rectal Suppositories possess conspicuous advantages. Their improved shape makes them easy of introduction, and prevents their expulsion. Each is enclosed in a hermatically-sealed sheath of pure tinfoil, which prevents the possibility of contamination, and preserves from deterioration. The active principles are evenly diffused, and the dosage is of high accuracy.

"Enule" Morphine and Belladonna Suppositories are sedative and anodyne; they are of great use in relieving pain in irritable conditions of the rectum generally, in cancer of the lower bowel, in prostatitis, cystitis, and also in conditions of the deep urethra associated with pain.

Soloid Microscopic Stains.—B., W. & Co.—The following stains are now obtainable in this convenient form: Bismarck Brown, Borax Methylene Blue, Eosin, Eosin Methylene Blue, Louis Jenner, Fuchsine, Gentian Violet, Gram's Iodine Sol., Hæmatoxylin, Hæmatoxylin (Delafield), Methylene Blue, Methylene Violet, Thionine Blue. Solutions are readily prepared according to directions given. The sample submitted to us of Louis Jenner's stain has been given an extensive trial. In its favour is its very convenient form, especially for those who are not constantly using the stain. Against it we find, even after considerable trouble in powdering it, it is dissolved with considerable difficulty, so that to make a stain of the correct strength is not easy. The red corpuscles are nicely stained by the Eosin, but the white, although the nuclei show fairly well, do not leave their granules sufficiently well brought out to be of use in differential blood counts.

Thyroglandin (Stanford).—EVANS, LESCHER & WEBB, London.—This brown powder contains the active principles of the thyroid gland of the sheep. It is supplied in powder, pilules and pellets, and is four times the strength of the fresh gland. It is believed to contain the Iodoglobulin and Thyroiodin, which are said to be the active principles of the gland: it gives the xanthoproteic tests strongly, so that it is apparently an animal extract, but careful examination has failed to reveal the presence of Iodin, a substance difficult of detection when present in only small quantity (*Stanley Kent*).

Ferri Alginas.—Alginoid Iron (Stanford).—This brown insoluble powder is a combination of Iron and Alginic Acid, containing 10.97 % of Ferrum. It is soluble in Hydrochloric Acid, and gives the reaction for Iron in the Ferric state (*Stanley Kent*). The proprietors claim for it that it resists gastric digestion, but we question if this statement will bear criticism. The powder containing a considerable quantity of Iron in organic combination, should be very useful where the inorganic preparations are not desirable.

Palmiacol, in Perles.—THE TROMMER COMPANY.—This composition is given as $C_{23}H_{40}O_2$. We are told that the drug is more effectual than Guaiacol or Creasote on account of its non-irritating properties, but we are not informed as to its origin or mode of manufacture. Testimonials from many medical men in the United States state that it gives excellent results in catarrhal and tubercular conditions of the respiratory tract.

Liquor Ipecac. Alb.—(MATTHEWS, Clifton).—The range of usefulness of Ipecacuanha in practice as an expectorant is minimised by the depressing and emetic action of the cephæline and psychatrine, which are in association with the emetine. This purified preparation of Ipecacuanha contains only the emetine, and is free from the other alkaloids, and is therefore a distinct advance in pharmacy of much clinical value. We have found it is well tolerated in doses which, if given in the form of the Vinum Ipecac. would produce nausea; the dose and strength being the same in both preparations.

Chocolate-coated Tablets.—PARKE, DAVIS, & Co., London.—A very comprehensive list of these has been prepared, and it is claimed for them that they have additional permanence in consequence of the protection of the medicaments from the air, and that they have an improved appearance and greater palatibility. The variety prepared appears to be such as should satisfy all the present demands and desires of mankind If these are accessible, there can be little need for anything more.

The Library of the Bristol Medico-Chirurgical Society.

The following donations have been received since the publication of the List in March:

May 31st, 1902.

F. H. Edgeworth, M.B. (1) ... ... 2 volumes.
The General Medical Council (2) ... ... 1 volume.
L. M. Griffiths (3) ... ... 7 volumes.
The Editor of *Illustrirte Rundschau der Medicinisch-Chirurgischen Technik* (4) ... ... 1 volume.
The Medical Library, McGill University (5) ... 2 volumes.
E. Merck (6) ... ... 1 volume.
The Pathological Society of London (7) ... ... 1 ,,
Arthur B. Prowse, M.D. (8) ... ... 1 ,,
Sir James Sawyer (9) ... ... 1 ,,
The Scholastic Trading Co., Bristol (10) ... ... 2 volumes.
The Society for the Study of Disease in Children (11) ... ... 1 volume.

FORTY-FOURTH LIST OF BOOKS.

The titles of books mentioned in previous lists are not repeated.

The figures in brackets refer to the figures after the names of the donors, and show by whom the volumes were presented. The books to which no such figures are attached have either been bought from the Library Fund or received through the *Journal*.

Ballance and P. Stewart, C.A. *The Healing of Nerves* 1901
Ballet, A. Proust and G. *The Treatment of Neurasthenia* (Tr. by P. C. Smith) 1902
Beaunis, H. ... ... *Le Somnambulisme provoqué* ... ... (1) 2e Éd. 1887
Boas, I. ... ... *Diseases of the Intestines* (Tr. by S. Basch) 1901
Browne, G. B. ... *The Harveian Lectures on Twenty-five Years' Experience of Urinary Surgery in England* ... ... (8) 1901
Burghard, W. W. Cheyne & F. F. *Manual of Surgical Treatment.* Part VI. 1902
Catalogue of Lewis's Medical and Scientific Library. Supplement, 1898—1901 1902
Cheadle, W. B. ... *Artificial Feeding and Food Disorders of Infants* 5th Ed. (Ed. by F. J. Poynton) 1902
Cheyne and F. F. Burghard, W. W. *Manual of Surgical Treatment.* Part VI. 1902
Clark, J. W. ... *The Care of Books* 1901
Climates and Baths of Great Britain, The. Vol. II. 1902
Critchett, G. ... *On Ulcers of the Lower Extremity* ... ... (3) 1849
Edwardes, E. J. ... *Small-Pox and Vaccination in Europe* 1902
Encyclopædia Medica (Ed. by C. Watson) ... ... Vols. IV.—X. 1900–02
Finsen, N. R. ... *Phototherapy* (Tr. by J. H. Sequeira) 1901

Freyer, P. J. ... *Stricture of the Urethra and Enlargement of the Prostate* 2nd Ed. 1902

Gibson and [W.] Russell, [G. A.]. *Physical Diagnosis* (Ed. by F. D. Boyd) 3rd Ed. 1902

Hayward, J. W.... *Protoplasm* 1902

Henle, A. ... ... *Mikulicz's Conservative Treatment of Tubercular Joint Disease* (Tr. by C. W. Cathcart)... 1900

Hood, W. P. ... *The Treatment of Injuries* 1902

Hughes, A. W. ... *A Manual of Practical Anatomy.* Part III. (Ed. and completed by A. Keith). 1902

Hutchison and H. Rainy, R. *Clinical Methods* ... ... [2nd] Ed. 1902

Jenner, E. ... ... *On the Varieties and Modifications of the Vaccine Pustule* ... ... (3) 1806

Knopf, S. A. ... *Tuberculosis as a Disease of the Masses and How to Combat It* 1902

Latimer, J. ... ... *The Annals of Bristol in the Nineteenth Century* (concluded), 1887—1900 1902

Limbeck, R. R. v. *The Clinical Pathology of the Blood* (Tr. from the 2nd German Edition by A. Latham and J. Nachbar) 1901

Macnaughton-Jones, H. [et al]. *The Practitioners' Handbook of Diseases of the Ear and Naso-Pharynx* ... ... 6th Ed. 1902

Mann, J. D. ... *Forensic Medicine and Toxicology* ... ... 3rd Ed. 1902

Moll, A. ... ... *Christian Science, Medicine and Occultism* (Tr. by F. J. Rebman)... 1902

Muirhead, C. ... *The Causes of Death among the Assured in the Scottish Widows' Fund and Life Assurance Society from 1874 to 1894 inclusive* 1902

Paget, Sir James. *Selected Essays and Addresses* (Ed. by S. Paget) ... 1902

Proust and G. Ballet, A. *The Treatment of Neurasthenia* (Tr. by P. C. Smith) 1902

Rainy, R. Hutchison and H. *Clinical Methods* ... ... [2nd] Ed. 1902

Ricord, [P.]... ... *Lectures on Chancre* (Tr. by C. F. Maunder) ... (3) 1859

Rieger, C. ... ... *Der Hypnotismus* ... ... (1) 1884

Russell, [G. A.] Gibson and [W.] *Physical Diagnosis.* (Ed. by F. D. Boyd) ... ... 3rd Ed. 1902

Sawyer, Sir J. ... *Contributions to Practical Medicine* ... (9) 3rd Ed. 1902

Stewart, C. A. Ballance and P. *The Healing of Nerves* 1901

Thomson, H. C. ... *Acute Dilatation of the Stomach* 1902

Treves, F. ... ... *The Tale of a Field Hospital* ... ... (3) 1900

Voselang, A. ... *The Springs and Climate of Tarasp-Schuls-Vulpera, Engadine—Switzerland* 1902

Walker, N. ... ... *An Introduction to Dermatology* ... ... 2nd Ed. 1902

TRANSACTIONS, REPORTS, JOURNALS, &c.

Alienist and Neurologist, The ... ... Vol. XXII. 1901

American Gynæcological and Obstetrical Journal, The ... Vol. XIX. 1901

American Journal of Obstetrics, The ... ... Vol. XLIV. 1901

American Journal of Ophthalmology, The ... ... Vol. XVIII. 1901

American Medical Quarterly, The ... ... Vol. I. 1900

American Practitioner and News, The ... ... Vols. XXXI., XXXII. 1901
Annales de la Société Belge de Chirurgie ... ... Tome IX. 1901
Annali di Ostetricia e Ginecologia ... ... Vol. XXIII. 1901
Archiv für Verdauungs-Krankheiten ... ... Bd. VI. 1900
Archives de Neurologie ... ... 2e Sér., Tomes XI., XII. 1901
Archives of Pediatrics ... ... Vol. XVIII. 1901
Archives provinciales de Chirurgie ... ...Tome X. 1901
Association of American Physicians, Transactions of the ... Vol. XVI. 1901
Birmingham Medical Review, The ... ... Vols. XLIX., L. 1901
Bookseller, The 1901
Boston Medical and Surgical Journal, The ... ... Vol. CXLV. 1901
British Journal of Dermatology, The ... ... Vol. XIII. 1901
Brooklyn Medical Journal, The ... ... Vols. XIV., XV. 1900-01
Bulletin de l'Académie de Médecine ... 3e Sér., Tomes XLIII., XLIV. 1900
Bulletin de l'Académie royale de Médecine de Belgique
4e Sér., Tome XV. 1901
Caledonian Medical Journal, The ... ... N.S., Vol. IV. 1901
Canadian Practitioner and Review, The ... ... Vol. XXVI. 1901
Centralblatt für Chirurgie 1901
Centralblatt für Gynäkologie 1901
Centralblatt für innere Medicin 1901
China Medical Missionary Journal, The ... ...Vol. XV. 1901
Cincinnati Lancet-Clinic, The ... ... Vol. LXXXVI. 1901
Clinical Journal, The ... ... Vol. XVIII. 1901
College of Physicians of Philadelphia, Transactions of the
3rd Ser., Vol. XXIII. 1901
Convocation of York—Report on Intemperance ... ... (3) 1874
Dermatological Society of Great Britain and Ireland, Transactions of the ... ... Vols. V.—VII. 1899—1901
Écho médical du Nord, Le 1901
Finska Läkaresällskapets adertonde allmänna Möte i Helsinfors, 19—21 September 1901, Förhandlingar vid 1902
Gazzetta Medica Lombarda 1901
Gazette de Gynécologie ... ... Tome XVI. 1901
Gazette des Hôpitaux 1901
Gazette des Hôpitaux de Toulouse 1901
Gazette hebdomadaire des Sciences médicales de Bordeaux Tome XXII. 1901
General Medical Council, Minutes of the ... ... (2) Vol. XXXVIII. 1902
Glasgow Medical Journal, The ... ... Vol. LVI. 1901
Grèce médicale, La 1901
Hospitals—
Royal Victoria Hospital, Montreal, Studies from the.
Vol. I., Nos. 1, 2 (5) 1901-02
Hospitals and Charities, Burdett's 1902
Illustrirte Rundschau der Medicinisch-Chirurgischen Technik ... (4) 1899
Indian Medical Gazette, The ... ... Vol. XXXVI. 1901
Intercolonial Medical Journal of Australasia, The ... ... Vol. VI. 1901
International Medical Magazine, The ... ... Vol. X. 1901
Johns Hopkins Hospital Bulletin ... ... Vol. XII. 1901
Journal de Neurologie ... ... Tome VI. 1901

Journal of Balneology and Climatology, The ... ... Vol. V. 1901
Journal of Cutaneous and Genito-Urinary Diseases ... ... Vol. XIX. 1901
Journal of Experimental Medicine, The ... ... Vol. V. 1900-01
Journal of Hygiene, The ... ... Vol. I. 1901
Journal of Laryngology, Rhinology, and Otology, The ... Vol. XVI. 1901
Journal of Mental Science, The ... ... Vol. XLVII. 1901
Journal of Nervous and Mental Disease, The ... ... Vol. XXVIII. 1901
Journal of the American Medical Association, The ... Vol. XXXVII. 1901
Journal of Tropical Medicine, The ... ... Vol. IV. 1901
Liverpool Medico-Chirurgical Journal, The ... ... Vol. XXI. 1901
Llangyfelach Rural District Council—Annual Report on the Llandilo-Talybont Division for 1901 1902
Medical Age, The ... ... Vol. XIX. 1901
Medical Annual, The 1902
Medical News, The ... ...Vol. LXXIX. 1901
Medical Press and Circular, The ... ... [Vol. CXXIII.] 1901
Medical Record, The ... ...Vol. LX. 1901
Medical Review, The ... ... Vol. IV. 1901
Medico-Chirurgical Transactions ... ... Vol. LXXXIV. 1901
Merck's Annual Report [on the New Medicinal Preparations] for 1901 (6) 1902
Mercy and Truth ... . Vol. V. 1901
Metropolitan Asylums Board—Report on the Bacteriological Diagnosis and the Antitoxic Serum Treatment of Cases admitted to the Hospitals of the Board, 1895-96 ... ... [N.D.]
Monthly Cyclopædia of Practical Medicine, The ... N.S., Vol. IV. 1901
Montreal Medical Journal, The ... ... Vol. XXX. [1901]
Münchener medicinische Wochenschrift 1901
New York Medical Journal, The ... ...Vol. LXXIV. 1901
Nord médical, Le ... ... Vol. VII. 1901
Occidental Medical Times, The ... ... Vol. XV. 1901
Odontological Society of London, Transactions of the N.S., Vol. XXXIII. 1901
Pathological Society of London, General Index to the Transactions of the, Vols. XXXVIII.—L., 1887—1899... ... ... (7) 1901
Philadelphia Medical Journal, The ... ... Vol. VIII. 1901
Polyclinic, The ... ... Vol. V. 1901
Post-Graduate, The ... ... Vol. XVI. [1901]
Practitioner, The ... ...Vol. LXVII. 1901
Progrés médical, Le ... ... 3e Sér., Tomes XIII., XIV. 1901
Progressive Medicine ... ... Vol. I. 1902
Publishers' Circular, The ... ... (10) Vols. LXXIV., LXXV. 1901
Revue de Thèrapeutique médico-chirurgicale 1901
Revue gênérale d'Ophtalmologie ... ... Tome XX. 1901
Revue hebdomadaire de Laryngologie, d'Otologie et de Rhinologie Tome XXI. 1901
Royal Academy of Medicine in Ireland, Transactions of the Vol. XIX. 1901
St. Louis Medical and Surgical Journal, The ... Vols. LXXX., LXXXI. 1901
Sanitary Record, The ... ... Vols. XXVII., XXVIII. 1901
Scottish Medical and Surgical Journal, The ... ... Vol. IX. 1901
Sei-I-Kwai Medical Journal, The ... ... Vol. XX. 1901

Society for the Study of Disease in Children, Reports of the (11)	Vol. I.	1901
Therapeutic Gazette, The	Vol. XXV.	1901
Treatment	Vol. V.	1901
Warmley Rural District Council—Annual Report of Medical Officer of Health		1901
West London Medical Journal, The	Vol. VI.	1901
Wiener klinische Wochenschrift		1901

MEETINGS OF SOCIETIES.

Bristol Medico-Chirurgical Society.

March 12th, 1902.

Dr. BARCLAY J. BARON, President, in the Chair.

This meeting was devoted to a special address and discussion on the **diagnosis of oriental or bubonic plague**, by Dr. KLEIN, F.R.S. The PRESIDENT introdnced Dr. Klein. Numerous photomicrographs were shown with the aid of a lime-light lantern and screen. Drs. R. FARRAR, D. S. DAVIES, J. O. SYMES, and HANCOCKE WATHEN discussed the address. (For the full report of the remarks of Drs. Klein, Farrar, and Davies, see p. 108, *et seq.*, of this *Journal*.)

April 19th, 1902.

Dr. BARCLAY J. BARON, President, in the Chair.

The PRESIDENT spoke of the great loss the Society had recently sustained through the death of three of its members —Dr. E. Long Fox, Dr. Bonville Fox, Mr. R. H. Chilton,— and it was resolved that the sympathy of the Society with the relatives of the deceased should be expressed through the secretary.

Dr. F. H. EDGEWORTH showed a **case of locomotor ataxy with interstitial keratitis**. The point of greatest interest in the case was the association of a disease, locomotor ataxy, usually secondary to acquired syphilis, with a disease, interstitial keratitis, usually due to congenital syphilis. The speaker had now discovered that the patient, an adult man, had been shown to the Society five or six years ago by Dr. Michell Clarke as a case of tabes secondary to congenital syphilis.—Dr. MICHELL CLARKE stated that about the time he had shown him the man suffered from severe gastric crises, and perhaps from intestinal crises as well as from many other symptoms of tabes.—Dr. H. E. STACK asked if Dr. Edgeworth had seen any other

cases of interstitial keratitis appearing so late in life.—Dr. EDGEWORTH replied that he had seen one other case.

Mr. H. ELWIN HARRIS showed a **patient with almost complete adhesion of the soft palate to the posterior wall of the pharynx.** The patient was a boy of twelve who had had severe ulceration of the throat two years previously. The soft palate was so completely and smoothly united to the posterior pharyngeal wall that the line of junction was difficult to detect. A fibrous whitish streak represented the uvula. A small hole through the soft palate alone effected a communication between the mouth and naso-pharynx. Fluids did not regurgitate through this hole, and the patient retained the power to blow through the nose. Mr. Harris was not in favour of attempting any operative relief for the condition.—Dr. WATSON WILLIAMS and the PRESIDENT also approved of non-intervention.—Dr. SHINGLETON SMITH alluded to a case he had seen, not so advanced perhaps as this, in which dilatation of the space between the palate and the pharyngeal wall had been employed with success.

Mr. T. CARWARDINE showed a **patient with primary syphilitic sore on the leg.** The patient was a female child. A copious rash had developed after the patient had been a short time under observation.—Mr. C. A. MORTON discussed the diagnosis of chancre as met with on the lips and fingers. He had seen a chancre of the lip which bore a resemblance to epithelioma. There had been hard glands at the angles of the jaw in this case. Two cases of chancre on the finger he had seen resembled sarcomatous growths.—Mr. MUNRO SMITH showed two drawings of chancres on the fingers, and alluded to the interesting question as to the amount of induration which was to be expected in such cases.—Mr. MOLE mentioned a case in which he had seen a vulval sore removed by operation with the diagnosis of epithelioma. Subsequently a syphilitic rash developed, showing the true nature of the sore.—Dr. WATSON WILLIAMS alluded to the value in diagnosis of the bubo which developed quickly in these cases, as contrasted with its slower development in malignant disease.—Mr. ELWIN HARRIS related a case of chancre on the fingers in a medical man, the development of which he had watched. No induration had been noticeable.—Mr. CARWARDINE considered that the diagnostic difficulties were greatest when the conjunctiva or the external os of the uterine cervix were affected. Many true chancres were without induration. Chancres of the vagina and vulva were frequently without induration.

Dr. W. H. C. NEWNHAM showed a **specimen of ruptured tubal pregnancy,** in which the rupture had occurred fourteen years before the tube had been removed. The patient, a woman aged 42, had been invalided with chronic pelvic pain. Abdominal examination revealed nothing, but on vaginal

examination a very hard swelling was felt lying behind and to the left of the uterus. It was the size of an orange. At the operation this hard mass and the adjacent left ovary and Fallopian tube were removed. The mass proved to be a fœtus. The patient gave a history of having had a miscarriage fourteen years previously. She had been ill for twelve months after with obscure abdominal symptoms. Examination of the specimen showed that the portion of the tube removed was healthy for a certain distance from the uterine end, where there was a cicatrix, and beyond that it was healthy again. The speaker believed, therefore, that the illness fourteen years previously had been really due to the rupture of a tubal gestation.—Dr. WALTER SWAYNE agreed with the interpretation given of the case. Considering the proximity of the rectum, bladder, etc., it was surprising that an abscess had not ensued. There were undoubted cases of calcification of fœtuses arising from tubal gestation. He knew of one such lithopædion which was almost as large as a full-term fœtus.

Dr. FISHER showed a **specimen of a tuberculous tumour of the brain, which had become quiescent and calcareous**, and read a paper on "The Healing of Tuberculous Lesions of the Brain." He read brief notes of reported cases in which similar calcareous masses to that shown had been found at autopsies, and referred to others where the symptoms of cerebral tumour had disappeared and the patients had recovered with loss of sight. It could not be proved, however, that in these cases a tuberculous tumour had been present, since symptoms undistinguishable from those of a cerebral tumour could be produced by chronic internal serous meningitis. Dr. Fisher had seen such a case, and others had been recorded by Diller and Oppenheim. Symptoms of cerebral tumour could also be produced by thrombosis of cerebral veins, and in a case recorded by Englehardt, in which a cerebral tumour had been thought to exist, nothing was found at the autopsy but atrophy of the optic nerves, the sequence of optic neuritis. The question of the possibility of recovery from tuberculous meningitis was then briefly dealt with. It was pointed out that only within comparatively recent years had simple posterior basic meningitis been widely recognised, and that most cases of supposed recovery from tuberculous meningitis were probably examples of this disease. There was, however, some evidence to support the view that recovery from tuberculosis of the meninges might take place, and brief reference was made to records of cases by Rilliet, Rotch, Jansens, Carrington, and others.—Dr. STACK alluded to some specimens he had seen demonstrated at the Ormond Street Hospital. One, obtained from a child which died of tubercular meningitis, showed the existence of five or six old healed tubercular masses, one of them being deep in the brain and the others in the dura mater. He asked if it was certain that the specimen shown was one of tubercular disease

and not one of syphilis. In its superficial position, it resembled the latter.—Dr. MICHELL CLARKE said that three points of interest had been raised by the paper under discussion—viz., the question of the recovery from tubercular tumours; that of the nature of those cases which gave the clinical signs of intra-cranial tumour, and yet recovered; and that of the possibility of recovery from tubercular meningitis. He quoted Williamson's case, in which a patient died about two years after recovering from tumour symptoms, and at the autopsy the old lesion was found in a calcareous condition. Dr. Bristowe used to teach that tubercular meningitis might recover, but possibly the cases which had given him that impression had been cases of basic meningitis.—Dr. NEWMAN NEILD mentioned a case of spinal meningitis in which calcareous nodules had been found in the meninges. It was possible that small numbers of tubercles might exist in the meninges without exciting the symptoms of meningitis.—Mr. LACE described the case of a child he had been asked to see, in which the cardinal symptoms of cerebral tumour were present. A physician considered the localising symptoms were not definite enough to justify operation. The speaker had advised operation, and so also had an oculist. No operation was done, and the child recovered, but not before blindness had resulted from post-neuritic atrophy.

Dr. W. H. C. NEWNHAM read a paper on a **case of sloughing fibroid successfully removed by abdominal hysterectomy.** The patient, an extremely anæmic woman, came first under his care with a large black mass projecting from the vagina. The uterus reached up to the level of the umbilicus. He attempted to remove this mass *per vaginam*, but only succeeded in cutting off the vaginal portion. The patient subsequently left the hospital for a time, but the tumour grew again, and she was re-admitted and the above operation was performed in spite of the danger involved in attacking so foul and septic a tumour by the abdominal route. No drainage was employed.—Dr. WALTER SWAYNE pointed out how difficult it was to purify a uterus which had reached an advanced septic condition as a preliminary to its removal by an intraperitoneal operation. He had scraped a carcinomatous uterus on one occasion for this purpose and thought he had succeeded in disinfecting the organ, but on examination after its removal he had found that the septic material had been by no means effectually removed.

Drs. MICHELL CLARKE and NEWMAN NEILD read notes on a **case of tuberculous pericarditis, and showed specimens.** The patient, a man of 50, had cystitis twelve years ago, the attack lasting about a fortnight. Twelve months before admission to the General Hospital he had an attack of hæmoptysis lasting three weeks. The present illness began six weeks before admission, with pains in the abdomen and vertigo, followed by

general soreness all over the body. Then the feet and lower limbs began to swell. On admission, a large pericardial effusion was found, with signs of infiltration of the apices of the lungs with tubercle. The urine contained a trace of albumin, with a light deposit containing granular and epithelial casts, squamous epithelium, and pus cells. The pulse rate varied between 96 and 120, whilst the respiration remained uniformly about 40. The average temperature was 99° F., with variations of one degree. The patient died suddenly. At the *post-mortem* 32 oz. of brown oily fluid were measured from the pericardium. S.G. 1025, alkaline, spectroscopically showing bands of met- and oxyhæmoglobin. A few leucocytes were found to contain tubercle bacilli, chiefly large hyalin leucocytes with reniform nuclei. The heart was dilated and somewhat hypertrophied, and was covered with a thick layer of shaggy lymph separated from the muscle by a firm layer of yellow material in which it was just possible to see minute tubercles. There were also two raised hemorrhagic patches on the left ventricle. The mode of entry was thought to have been from the retro-sternal glands. Each suprarenal contained a large caseous mass in the medulla; it was noted, however, that there was no increase of pigmentation of the skin. The bladder contained two tuberculous ulcers, and the left kidney was converted into a lobulated sac of greenish fluid with some caseous particles; the right kidney showed a patch of caseating tubercle and was much hypertrophied.—Dr. NEWMAN NEILD observed that whilst tubercles in the pericardium were not infrequent, especially in children, yet a definite tuberculous pericarditis was comparatively rare. —Dr. MICHELL CLARKE, remarking on the clinical features of the case, said that the aspect and attitude of the patient were characteristic of a large pericardial effusion; the sharp delimitation of the area of dulness, and the extreme character of the dulness, were noticeable. Amongst the subsidiary signs it may be mentioned that the dull area over the left base, extending across the spine to the right side, was well marked, that there was no bronchial breathing just outside the right nipple (Ewart's sign), and, lastly, that the angle formed by the right edge of the dulness with the upper line of liver dulness was an obtuse one.—Dr. T. FISHER stated that tubercular pericarditis did not cause enlargement of the heart. In pericarditis from rheumatism, almost without exception the heart became enlarged.

J. LACY FIRTH,
Reporter.

J. PAUL BUSH,
Hon. Sec.

Obituary.

REGINALD HORACE CHILTON.

The untimely death of Mr. Reginald Horace Chilton, at his residence in Clifton, has made an irreparable gap in a large circle of medical friends; especially will his loss be felt by those who have had the good fortune to work with him in hospital or under his guidance at the Medical School. At the latter institution he made himself much liked for the interest he took, not only in teaching, but also in the organisation of the Students' Club Union; in hospital the skill and care which he brought to bear upon his treatment of patients made him a valuable and interesting colleague.

During the discharge of his duties as Registrar to the Children's Hospital, to which post he had recently been appointed, he contracted diphtheria, and fell a victim to consequent heart failure.

Mr. Chilton was the third son of Mr. Horace Chilton, Deputy Sheriff of the City of Bristol. Having studied medicine at Bristol and Guy's, he obtained the conjoint qualification in March, 1893. From 1894 to 1896 he was House Surgeon at the Tiverton Infirmary, after which he went to Cook's School of Anatomy, where he was made Demonstrator of Anatomy prior to passing the first Fellowship Examination in November, 1896. After this he went to Egypt in charge of an invalid friend, and acted as medical officer at the Pilgrims' Camp at El Tor, on the Red Sea. During July, 1897, on his return to England, he was elected Junior House Physician to the Royal Infirmary, Bristol, and, six months later, Junior House Surgeon.

In 1899 he became Demonstrator of Physiology and Practical Histology at the Bristol Medical School.

Fourteen months before his death he started in general practice, and had held the Registrarship at the Children's Hospital for a few weeks only. For some months he had acted as Secretary to the Bristol branch of the St. John's Ambulance Association. Such popularity as his ensures a long-cherished memory.

Local Medical Notes.

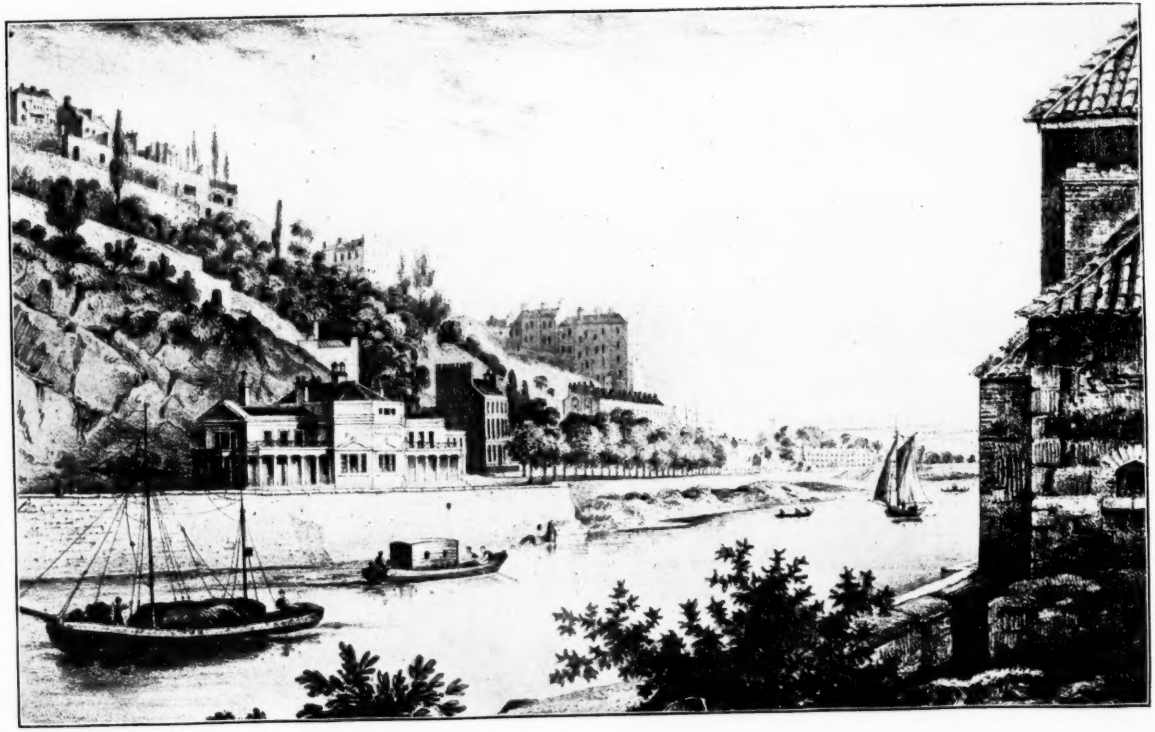
Bristol Royal Infirmary.—Mr. W. Mair, M.B. (Edin.), has been appointed Casualty Officer.

Bristol General Hospital.—Mr. A. F. Martin, M.B. (Vict.), has been appointed House Surgeon, Mr. J. E. Sparks, M.R.C.S.,

Assistant House Physician, Mr. A. Coleridge, M.R.C.S., Casualty Officer, and Mr. C. Shaw, M.B. (Lond.), Casualty Officer.

Bristol Public Health.—The prevalence of some considerable amount of SMALLPOX in London during the winter 1901-2 might have led to the supposition that this would prove an especial source of danger to Bristol. But of the four introduced cases one only, in December, came from London; the other three, of which one was fatal, came from the United States, in parts of which smallpox has been seriously prevalent. The cases remained "samples," no extension from any of them taking place, possibly because the port and city are under the same control, so that no slip between conflicting authorities occurred. This is the crux of smallpox control in a vaccinated community, and the risk from occasional introductions of this disease is by no means great if early recognition and notification be secured. One case has also been nursed in the city hospital for the Long Ashton Guardians, a tramp who came from the Midlands.

DIPHTHERIA.—Of far greater urgency, though favoured with less of public regard, has been the continued threatening aspect of diphtheria. For fifteen years previous to 1900 the mortality records of Bristol showed that she fortunately had much less than her due share of diphtheria mortality; and seven years' study of the bacteriological conditions accompanying diphtheria prevalence in the city has convinced me that this was due to the non-introduction into the city previous to that date of the virulent bacillus which has prevailed since 1900. The forms present before that date were morphologically different, and in practice were found to be subject to ready control. Since the introduction of the present prevailing bacillus into Bedminster early in 1900, however, the tendency to spread, and the high fatality of the disease, have been very marked. Bedminster and Knowle, which suffered severely for the first eighteen months, are now practically clear, but the disease has successively attacked one fresh district after another,—Redcliff, Hotwells, St. George,—showing in many cases well-marked school incidence. The method of control has been on the lines adopted since 1895 in this city, and similar to those used by Cobbett at Cambridge and Colchester, *i.e.*, dealing with the disease as a purely parasitic disease, personally spread, largely by the agency of mild and unrecognised cases affecting the throat or nose of contacts. Those cases especially which show the presence of the atypical forms of diphtheria, accompanied by little or no signs of clinical illness, have received particular attention, and the prohibition of school attendance, with the provision of out-patient local treatment for such cases, has been attended with the happiest results. Personal medical inspection of contacts in affected classes, or in invaded houses, while necessitating a very large amount of work, is essential, and would justify in all towns more complete medical organisation in the public health service, to replace some excess of non-medical sanitary inspecting power. The control of diphtheria is purely a question of skilled medical inspection, and this disease must of all others be dealt with according to Koch's axiom—by having regard to its special etiology. The special feature of the early part of 1902 was the implication of the Two Mile Hill Schools, containing 1,100 children; this outbreak seems, however, to be already under control.



8.—*Bristol Hotwells in 1822.*